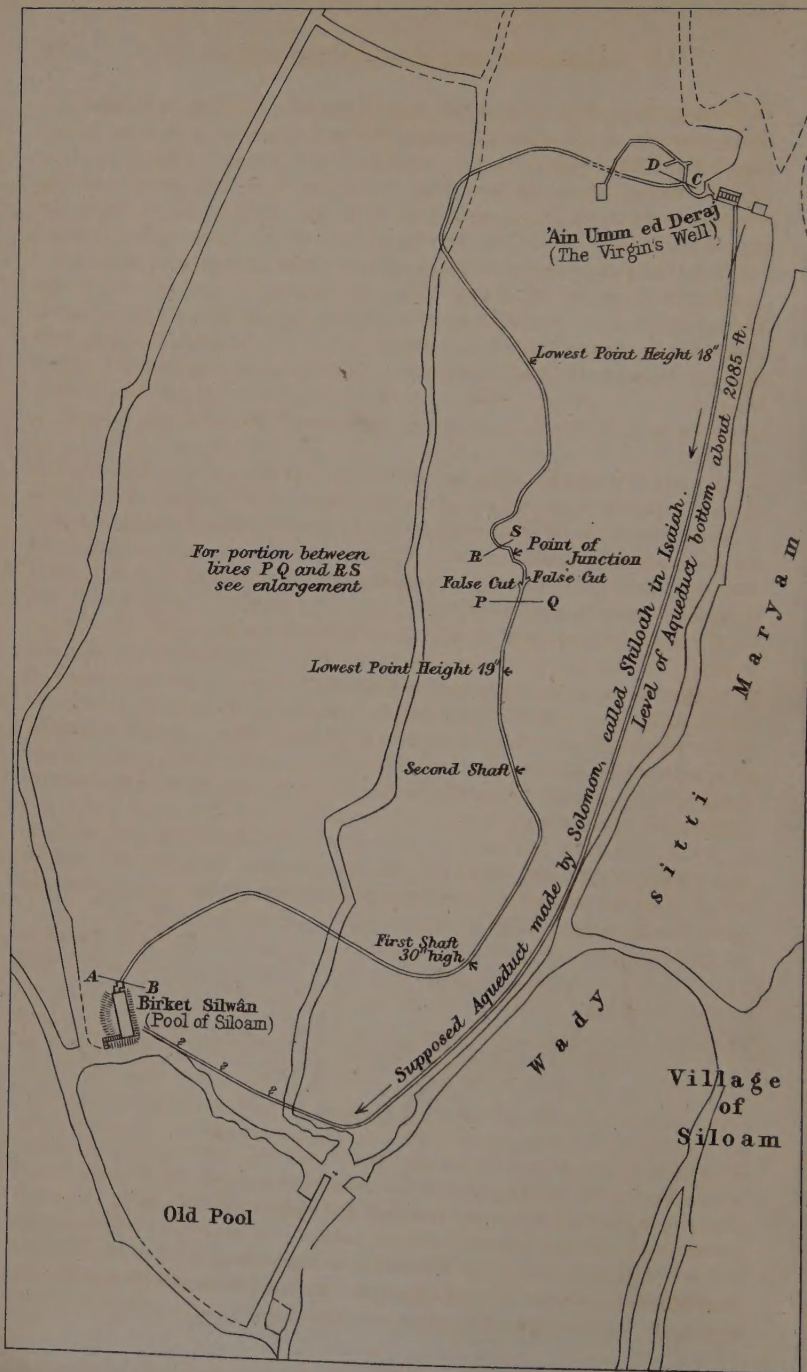
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PALESTINE EXPLORATION FUND.

Patron—THE QUEEN.

Quarterly Statement

FOR 1884.

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ERRATA.

1883.	Page 158, line 28.	*For* Sam. xx, *read* Sam. xix.
1884.	„ 156, „ 25.	*For* Leeds, *read* Leek.
	„ 159, „ 31.	*Omit* Mount.
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THE PALESTINE EXPLORATION FUND

NOTES AND NEWS.

The Geological Expedition which was announced in the October number of the *Quarterly Statement* has been successfully despatched. Professor Hull took leave of the Committee on the 18th October, and started on the 19th, accompanied by his son, Dr. Gordon Hull, and by two volunteers, Mr. Henry Hart and Mr. Reginald Lawrence. The services of Mr. George Armstrong, who has been employed in the Survey of both Eastern and Western Palestine, were secured, and he followed the party by way of Southampton and Gibraltar, Professor Hull going by way of Venice. At Cairo they were joined by Captain Kitchener, R.E. The arrangements for the expedition were entrusted to Messrs. Cook & Son. Everything was found ready on the arrival of the party: they left Suez on November 10th, and Ayun Musa on the 11th.

It was impossible to receive any intelligence from them for some weeks; that is to say, until they should be near enough to Jerusalem to send a message. The disastrous news from the Soudan, and Suakim, which would probably be learned by the Sinai tribes very quickly, caused some anxiety, lest there should be an outbreak of fanaticism. It was therefore with great satisfaction that a telegram was received on December 19th, to the effect that the party were quite safe within thirty miles of the Dead Sea, and that the expedition so far had been perfectly successful. This is, at present, all that is known.

It is, however, now clear that the estimate of the cost, to include the publication of results, set down in the October number of the *Quarterly Statement* at £2,000, was a good deal under the mark. As the whole of this amount will have to be met in the early part of the year, subscribers are entreated to forward their subscriptions as soon as possible. As in all previous expeditions, it is hoped to present a popular report of the whole in the *Quarterly Statement*, reserving the scientific part, which will probably prove voluminous, for separate publication.

At the last moment, this number of the *Quarterly Statement* has been delayed in order to allow the insertion of two papers by M. Clermont-Ganneau, which appeared in the *Times* of 26th and 27th December; one on two newly-found inscriptions of Nebuchadnezzar, and the second containing a full and instructive exposure of the forgeries systematically carried on in Jerusalem.

Captain Conder has completed his memoirs and drawings of the Survey of Eastern Palestine, and placed the whole in the hands of the Committee. The form of publication is not yet decided. The drawings include special plans of Amman and Arak-el-Emir, and, among other things, some hundreds of sketches of the remarkable rude stone monuments which he found in the country.

His book, "Heth and Moab," forming the popular account of the expedition, was issued in November, and has, so far, done very well. Extracts from the work will be found in the body of this number.

Canon Tristram's "Flora and Fauna" is completely printed, and the plates are being coloured. It will be issued early in March.

Sir Charles Warren's "Jerusalem" is also nearly ready. It contains, besides an account of his own excavations, a paper by Captain Conder on the history of the architectural monuments in the City; an account by the same officer of the excavation work in Jerusalem before and since Sir Charles Warren's work; and an account of M. Clermont-Ganneau's work in 1874–5. The plans and drawings to accompany it have been drawn on sixty large sheets in a portfolio.

These new volumes, with the portfolio, will complete this great and important work, which has been so long in hand. There are still some copies left, and the Committee beg to inform their friends that a circular can be had stating the contents of the work and the reduction on the published price of twenty guineas which they can offer to libraries and subscribers. It must be understood that this work will not be reprinted, and that it is by far the greatest and most important work ever done for Palestine. It is desired, above all, that the remaining copies should find their way into libraries where they will be accessible to all.

The only authorised lecturers for the Society are—

(1) The Rev. Henry Geary, Vicar of St. Thomas's, Portman Square. His lectures are on the following subjects:—

The Survey of Western Palestine, as illustrating Bible History.
Palestine East of the Jordan.
The Jerusalem Excavations.
A Restoration of Ancient Jerusalem.

(2) The Rev. James King, Vicar of St. Mary's, Berwick. His subjects are as follows :—

The Survey of Western Palestine.
Jerusalem.
The Hittites.
The Moabite Stone and other monuments.

The income of the Society, from September 19th to December 12th inclusive, amounted in all, including subscriptions, lectures, and payment for maps, memoirs, and publications, to £319 1*s.* 8*d.* Of this the sum of £36 7*s.* 0*d.* was specially appropriated to the Geological work.

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

NOTES TO ACCOMPANY A MAP OF THE LATE REV. F. W. HOLLAND'S JOURNEY FROM NUKHL TO 'AIN KADEIS, JEBEL MAGRAH, AND ISMAILIA.

THE following brief account of a portion of the Rev. F. W. Holland's last journey in the desert has been compiled from his field notes, which have been kindly placed at my disposal by Mrs. Holland. The journey was a remarkable one; it was boldly conceived, and no less boldly carried to a successful issue. To those who did not know the man, his extraordinary powers of endurance, his firmness and earnestness of purpose, and his power of winning the confidence of the Bedawin, the feat which he performed must seem almost incredible. I have rarely met any one who possessed in so high a degree those sterling qualities which win not only the respect, but the esteem of savage races. Khawaja Hulhul, as he was familiarly called, was a welcome guest in every Arab tent, and it will be many years before he is forgotten by the wild children of the desert whose good qualities he had learned to appreciate during his solitary wanderings in the peninsula of Sinai.

Leaving Evesham on the 21st March, 1878, Mr. Holland reached Suez on the 29th. The 30th was occupied by an excursion to the Bitter Lakes, and on the 31st he started into the desert with only three Arabs and three camels. Mr. Holland dressed and travelled as a European; there was no attempt at concealment; he relied entirely on his knowledge of Bedawi life and character, and the trust which he reposed in his companions was fully justified by the result. How far he had succeeded in winning the love of his guides is shown by a little incident that occurred shortly before reaching Nukhl. The camels had been sent forward to get water from the fort, and Mr. Holland was alone with Sheikh Nassar in the desert; the thermometer stood at 102 degrees in the shade, and the Sheikh's eyes were growing dim with the feverishness that comes of intense thirst, yet nothing could induce him to touch the scanty store of water which he was carrying for Mr. Holland; nor was Sheikh Nassar alone in this respect, for whenever any difficulties arose about food or water, the three Bedawin always insisted on reserving what there was for their European companion.

Mr. Holland returned to Ismailia on the 23rd May, after an absence of fifty-three days, during which he travelled over 1,000 miles on foot—an average of twenty miles a day, excluding halts; and visited a district which had never previously been explored, and which, from the character of its inhabitants, had been deemed almost inaccessible. The journey had been planned long beforehand. Mr. Holland, in conversation with myself, had often expressed his belief that the Israelites must have left Sinai by a route followed in 1840 by Baron Koller, of which there is a short notice in the "Journal of the Royal Geographical Society" for 1842; and that

Kadesh was probably near the south-east corner of Jebel Magrah, whence, he assumed, there would be a good road, "the way of the spies," northwards. It was not, however, until 1878 that he was able to carry out his plans. His journey has established, beyond a doubt, that Baron Koller's route offers an extremely easy road to the Tih plateau, such as might have been followed by the Israelites with their women and children, their flocks, and their waggons. Unfortunately, the presence of raiding parties of hostile Bedawin prevented a complete examination of the southern edge of J. Magrah, but Mr. Holland ascertained that that mountain did not extend as far eastward as was generally supposed; and that an easy road, such as he had expected to find, led northwards, between Jebels Magrah and Jerâfeh to the broad caravan road, followed from the north by Palmer and Drake. There are several indications in the Bible which would lead us to believe that Kadesh was at the south-east corner of J. Magrah, but, for the present, it will be safer to adopt Mr. Holland's opinion, that if Kadesh-Barnea be not at W. Kadeis, it may probably be placed near the south-east base of J. Magrah, in Râs W. Garaiyeh. Besides the two important points alluded to above, Mr. Holland determined the true course of W. el Arish, which passes through a remarkable gorge in J. Helal; and the drainage system of J. Magrah, which sends part of its waters northwards by W. Harâsheh to W. Hanein, and part westwards to W. Lussân. He also discovered the important alluvial plain east of J. Helal, and, on his return journey to Ismailia, followed an old road, previously unknown, which is, in all probability, the way of Shur, by which Abraham went down into Egypt.

The only account of Mr. Holland's journey is contained in a paper read before the Dublin meeting of the British Association in 1878, and printed in the *Quarterly Statement* for April, 1879. It was always his intention to prepare a fuller narrative, with a map, but, unfortunately, he was "called away" before the work was even commenced. The map which accompanies these notes has been prepared from the rough field books; and the valuable sketches of the great plain of W. Jaifeh, at the mouth of W. Kadeis, and of the pass between Jebels Magrah and Jerâfeh, have been faithfully reproduced from the original drawings by Mr. Johnson, of the Ordnance Survey. The first weeks of Mr. Holland's journey were devoted to explorations in the peninsula of Sinai and to an examination of the passes leading to the Tih plateau, including Baron Koller's route; but as this district is now being surveyed by Captain Kitchener, R.E., I have thought it better to confine the present extracts from the journal to the journey north of Nukhl.

Extracts from Field Book.

May 6th, 1878.—Left camp in W. Tureifeh at 8.40 A.M., and at 9 A.M. crossed over some low chalky "jorfs,"[1] 100 yards wide, to W. el Arish; 9.30, course north-east, down W. el Arish; the actual bed of the wâdy is

[1] Jorfs are banks of alluvial deposit.

small, but it appears to spread its waters over at least half a mile; passed some low chalk hills, weathered into peaks like tents. 10.20. Passed about half a mile west of the Castle of Nukhl; W. el Arish is here a large, barren plain, with no trees. 12.15. Low hill to the west, Motalla el Nukhl; alluvial plain. 1 P.M. Halt at junction of W. Rawâg with W. el Arish; several "nawâmis."[1] 3.30 P.M. Started, and in ten minutes enter a tract of many acres, ploughed by the Arabs, to be sown with corn after rain; the alluvial plain is now more than a mile across. 5.5 P.M. Camp for the night in the narrow bed of the wâdy, about 8 feet deep and rocky in places; it is greener than the alluvial plain, which is so scored by watercourses as to be very bad ground for travelling.

May 7th.—Start at 6.10 A.M., and in twenty minutes reach a tract of 40 to 50 acres ploughed for sowing; jorfs in W. el Arish 15 feet high. 8.30. Nuggah el Agâbah; the alluvial plain is called Nuggah el Arish; these two nuggahs are probably Palmer's Wâdies Abu Jize, a name which my Arabs do not know. 9.0. Wâdy Agâbah; halt to visit "nawâmis" on a hill; they are evidently old tombs, a circle of stones with a cairn in the centre; I counted about thirty, scattered over a large area. On the hill-top were hundreds of snail shells and a quantity of lichen. A desert bird, "Mecky," seen here which, sitting on the top of a bush, begins a song like the low notes of a nightingale, and then suddenly springing up into the air, about 30 feet, and spreading out its wings, descends vertically with a succession of quick sharp notes. Wâdy el Arish runs north of J. Yeleg, not south as in Palmer's map. 12.30 p.m. Continued journey; 1.40 reach north end of the alluvial plain we had entered after crossing W. Agâbah; after ascending a flinty slope for about half a mile, we entered upon another plain, not alluvial, which seems to extend westward right up to J. Yeleg; this mountain runs north-east, and has its highest peak in the centre; it runs gradually out north-east and south-west, and must be quite twenty-five miles long. 2.30. Reach Nukb el Fahdi; from this point there is a magnificent view of the country north-east, and at our feet was a large plain bounded on the north by J. Ikhrimm, which runs west and east, about three miles distant. 4.0. Crossed the bed of W. el Fahdi, in which there was much broom; the road here has as many as twenty parallel tracks. 4.35. A large wâdy, "Emshâsh," runs in on the right from some white mountains to the south-south-east. 5.13. Camp in W. el Fahdi. J. Ikhrimm is composed of granite, sandstone, and limestone; the upper bed with flint bands. There are two small "Sayal" trees in W. el Fahdi, below the mountain, and hence probably was derived the wood seen by Palmer in the buildings at Contellet Garaiyeh. The "Sayal" (acacia) appears to grow only in granite and sandstone districts, and it is curious to find then here in conjunction with an outbreak of these rocks. The strata at the north-east end of J. Ikhrimm have a dip of about 30 degrees to the east. The continuation of the El Fahdi cliffs, eastward to Palmer's cliffs

[1] The stone houses and circles so common in the Sinaitic peninsula, and the desert, are called nawâmis by the Bedawin.

400 feet high in W. Garaiyeh, could be clearly traced in the morning and evening lights.

May 8th.—Start at 6.15 A.M. ; and at 7.10 reach Palmer's "battlefield" ; W. Dométeh runs in from south-east, the wâdy north of J. Ikhrimm is called Hashan el Ikhrimm ; further north is a large rolling plain; the Arabs say Jebels Helal and Yeleg are, like J. Ikhrimm, of granite ; their appearance confirms this. 7.45. Turned north-north-east across the plain ; W. el Fahdi runs off to the north. 9.0. Alluvial plain of W. Garaiyeh. 9.40. Reach the other side of the alluvial plain ; there is no regular watercourse ; W. el Hamr flows in higher up from the north-east ; the junction with W. el Fahdi is about a mile lower down. Palmer's J. Umm Hesairah is much exaggerated on his map ; it is a low hill. Passing through a line of very low hills, or rather mounds, which bound W. Garaiyeh on the north, we entered another large plain, El Kaa esh Sheraif. 12.25 P.M. Halt. 1.45. Continue journey over a gravelly plain ; my Arabs did not know the name W. Máyîn. 3.30. Head of pass over J. Sheraif, a long low range, which sweeps round in a semi-circle, the chord being north-north-west and east-south-east. It is formed by the sudden uptilting of the strata, and stretches eastward almost to J. Hamr. We lose from here the lines of the watercourses ; the eye is carried over them, and a vast plain appears to stretch southwards to Nukb el Fahdi, J. Ikhrimm, and J. Helal. The north side of J. Sheraif presents a line of more or less precipitous cliffs. The pass is narrow, up the bed of a small wâdy, and takes about half-an-hour to cross ; we turned down a small wâdy when half-way through, and came out on the plain nearer J. Helal, to which we turned. 4.50. Reach a large bed of alluvium. 5.30. Camped near some Arabs in the bed of W. Utvâdif, in the middle of the plain.

May 9th.—Started at 6.15, across an alluvial plain, towards J. Helal for water ; on the plain were some fig-trees, young palms, and the "Hamârt," which has a leaf something like the tamarisk, and a fig-like fruit ; there were also Doura, and the stubble of old crops. 7.15. W. Hathîrah is the name given here to W. el Arish. 8.15. Halted while Zeid went for water to J. Helal ; he returned at 2.15 P.M. with excellent water. The watering-place is called "El Hathîrah" ; there are five bad wells and one good one, which is very deep. There were many Arabs and camels at the wells watering, and we had to pay for water[1] (comp. Numbers xx, 19). El Hathîrah appears as a recess or basin between J. Helal and a lower range in front of it. 2.45. Started again across the plain towards J. Meraifig, and at 3.55 reach the edge of the alluvial plain, with its maze of ridges and furrows ; in wet weather it must be quite impassable. 4.40. Struck the "Siccet esh Sham" (road to Syria), and at 4.50 camped on the plain. A herd of gazelle and flock of sandgrouse, "Guttah," were seen during the day, and small whirlwinds were frequent.

May 10th.—At 6.15 A.M. started north-east across plain ; low flat-topped hills scattered here and there show a former higher level ; large

[1] Mr. Holland proposed to identify El Hathîrah with "Hezron which is Hazor" (Josh. xv, 25).

quantities of lichen on the small stones. 7.20. Sherâfeh, a pass over low hills; there has been a gradual rise for the last half-hour; we now descend to the plain of W. Jerûr. 7.50. W. Jerûr runs north-north-west; the ground rises to the right of us and breaks into a low cliff on the east side, about a mile off. The name of the cleft through which W. el Arish runs is Er Râgah J. Helal. 9.15 halt in W. Saisab; 12.55 start down W. Saisab. 1.30. W. Mimbutter, a broad shallow wâdy with alluvium; cross some rising ground to a large plain, with much broom, extending apparently up to J. Magrah. 2.35. After crossing, for half-an-hour, a rolling plain, with several small wâdies running to W. Moweilah, we entered that wâdy near a small burial-ground; here we met several Tiyâhah with fifty camels, which were feeding on the "Turfa," of which there is much in the wâdy. 4.0 P.M. Camp near a small cave, and close to a burial-ground with the tomb of a Sheikh, in whose honour we had sugar in our coffee, and repeated the first chapter of the Koran.

May 11th.—At 6 A.M., started east up W. Guseimeh. W. Moweilah turns east and forms an uneven basin about one mile in diameter; the principal watering-place, in the centre, consists of a stream and three or four shallow wells with troughs. There is evidently much water here; another large bed of rushes and damp sand marks the bed of a stream behind our tent. 7.30, unloaded camels in W. Guseimeh, and started up W. el 'Ain with Zeid. Great beds of rushes betoken the presence of water, and we had to pick our way through them on account of small streams. Above are numerous water-holes, and many camels were being watered. We stopped and had a talk with Tiyâhah Arabs, who said that J. Magrah was in the country of the Haiwât, of which tribe there was an encampment close at hand. We consequently returned to Nassar with two of the Arabs to talk over matters, and decided to load at once and go on to the Haiwât. There were great numbers of flint flakes all the way from W. Moweilah, and traces of old encampments. 9.15 started, and in thirty-five minutes reached the Haiwât tents in the middle of the plain at the head of W. Guseimeh; I was most hospitably received by the Sheikh, and after dinner agreed with him for an escort to J. Magrah. On a hill between W. el 'Ain and W. Jaifeh, there are many round tombs and stone circles; the wâdy is scattered with flint flakes and broken pottery. Below the mouth of W. el 'Ain there is a large level plain, forming the head of W. Guseimeh; W. Sabh is a branch of W. Moweilah; large numbers of sandgrouse seen.

May 12th.—Went with Selim up W. Guseimeh and W. el 'Ain; the latter must overflow at times into the former, the head of which is a flat slope, used formerly for sowing corn, for which it is admirably suited, W. el 'Ain, after leaving the hills, sweeps round three groups of low hills in the plain of Guseimeh, and runs into W. Moweilah; low mountains bound the plain on the north, running round in a semi-circle from J. Moweilah to J. Sabh; there is a higher mountain behind the hills north of the Moweilah basin. The lower part of W. el 'Ain, before it enters the plain, is about a quarter of a mile wide; the usual bed runs on the north side; on the south is a thick bed of alluvial deposit, with many



A. Johnson, delt.

WADY KADEIS AND WADY JAIFEH. (*From a sketch by the late Rev. F. W. Holland, May 13th*, 1878.)

rocks and boulders, which was in old days terraced for corn. In the centre, about half a mile up, is a rocky bit of ground covered with old tombs; Selim remarked that there must have been giants in those days, many of the stones used are so large. Higher up, W. el 'Ain branches, the main branch coming down from J Towâl el Fahm. The bed of W. el 'Ain rises rather rapidly as one ascends, but there is a good path up to the point where it branches: above this it narrows, but there is still alluvium on the south side. A mile higher up there are large beds of rushes, a pretty sure sign of water. The mountains seem everywhere to have stone ruins, usually, but not always, round, upon them; and flakes of flint are found near them. There is abundance of pasturage, both on the mountains, which abound with paths, and also in the plains. Between J. Magrah and J. Towâl el Fahm there is a large plateau on the same level as the hills north of W. el 'Ain, from six to ten miles across. A sandgrouse with nine young ones seen in W. el 'Ain; and nests found on the hills.

May 13th.—At 5.40 A.M. started south over a low pass.[1] 6.30. W. Jaifeh, several old tombs. 8.45. Stopped to kill a goat; a large "Gôm" (raiding party) of Maazi Badawin, two hundred camels strong, reported near J. Ikhrimm yesterday; the Arabs are afraid, and I cannot get them to go further to-day; they say the "Gôm" will go on during the night. The Haiwât Sheikh does not know the name of W. Gaiser (on Palmer's map); he calls the whole of this plain W. Jaifeh, though he gives the name of W. Dammath to the small wâdy we have followed. There is another W. Dammath, he says, near W. Sabh (this is given by Palmer). Walked to the mouth of W. Kadeis; the ground to the north-west of the mouth is broken by low hills; the wâdy is a good-sized one, and runs straight out into the plain; there are terraces for gardens and ruins near the mouth. There is a well in W. Jaifeh called Umm Sêigût.

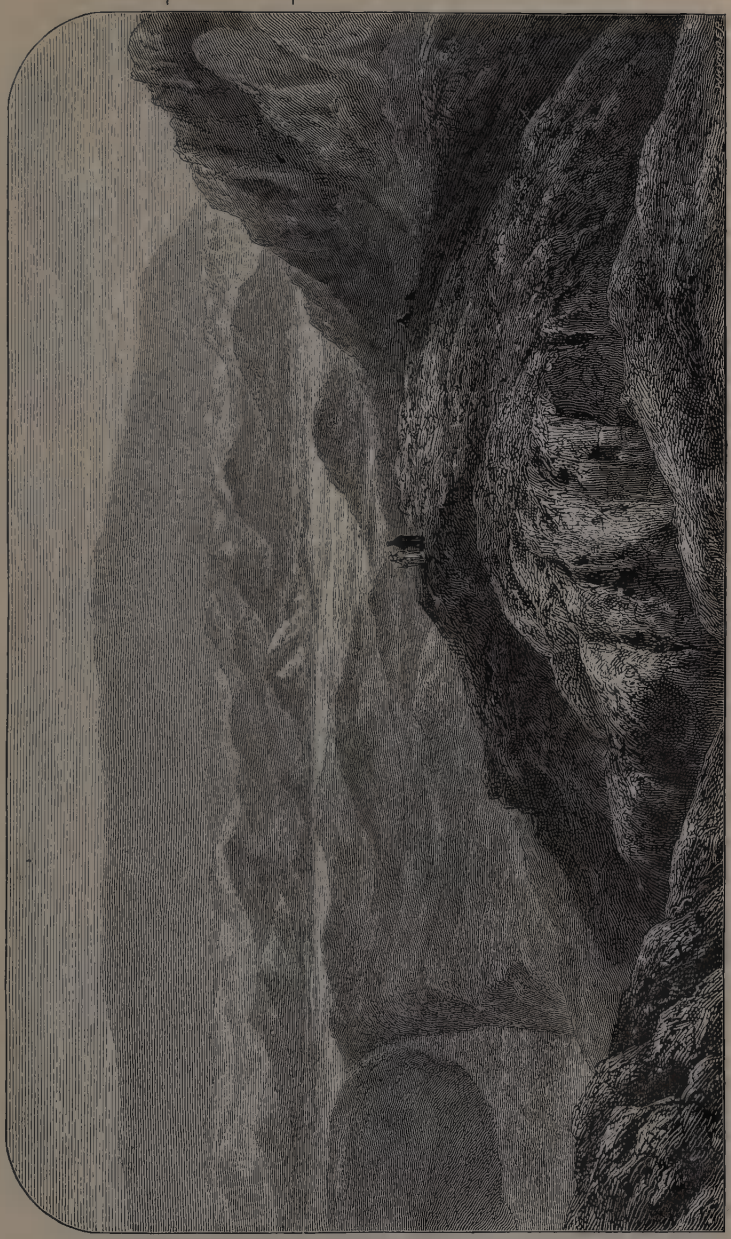
May 14th.—Started at 5 A.M., and at 5.15 A.M. reached the mouth of W. Kadeis, quarter of a mile broad; course east up W. Kadeis. 5.50. 'Ain Kadeis just above a turn in the wâdy, where it becomes narrower. There are three springs, two on the hill-side, and one in the bed of the wâdy; from the lower spring on the hill-side a good stream of water flows for about 100 yards down the wâdy, forming pools at which the goats are watered; the camels go to the spring. The upper spring on the hill-side is a poor one now; it is built round with large rough stones to a depth of 5 feet, and there is a rude stone trough here and at the lowest spring. The three springs are not more than 40 yards apart. The wâdy, which is stony throughout, has a bed, below the springs, nearly 15 feet deep, between stony jorfs. As one ascends, the mountains become lower and less steep; there is much pasturage on them; the lower strata are chalk, with flints; the upper, hard limestone (nummulitic?); large masses have fallen down and lie in the valley. There are a few fig-trees and a bed of coarse grass. About 50 yards higher up the wâdy than 'Ain Kadeis there is a deeper well with four old watering-places; there are also traces of others near. 6.50. Start south-east up wâdy; terraces and ruins on hill-side. 7.0. The

[1] See sketch from this point.

main branch of wâdy turns north-east and winds round to east; we keep south-east up a very narrow, steep, and rocky wâdy. 7.10. A Butmeh tree; the wâdy forks; we take left branch; a rapid ascent by a fair mountain path; meet goats and camels with women, all carrying spindles, and a girl with a nose ring. 7.30. Nummulites in crystalline limestone. 8.0. Four Arab tents; the path on the mountain side above the wâdy; steep sloping mountains, with flat rounded tops; the strata horizontal. 8.40. A Butmeh tree; the wâdy forks again; we ascend the shoulder between the two, and a sharp walk brought us to the top of the pass. 9.0. Head of W. Haroof, which runs east-north-east to W. Harâsheh. 9.30. Start down W. Haroof, and at 10.0 reach Arab tents and halt. Some of the Arabs had been fighting the Maazi "Gôm" yesterday; two Haiwât killed; and seven wounded; three Maazi killed. The Haiwât had gone down from W. Magrah to W. Garaiyeh, with twenty camels, to prepare ground for corn, when the "Gôm" came upon them and carried off their camels. There have been three Maazi "Gôms" lately; the first took nothing; the second was yesterday; the third is still in the country below Nukhl. J. Magrah consists of rounded hills covered with herbage; the rocks consist of very thin beds, less than 1 foot, of hard limestone, which, lying horizontally, give the mountain the appearance of having been built up in courses. 2.0. Start down W. Haroof. 2.12. Turn south-east up W. Harâsheh, which runs on eastwards; Butmeh trees and corn ground. 2.44. The wâdy forks, and the country becomes rather more open; the Arabs stopped here, as there were no tents further on. Ascended a mountain on the east with one of the Haiyât; the mountains round appear flat-topped from a height. W. Harâsheh seems to drain the whole of J. Magrah, and runs into W. Hanein, round the east end of J. Towâl el Fahm.

May 15*th*.—At 4.20 A.M. started south-south-east up W. Harâsheh; an open basin with Butmeh trees. 6.5. Halt at Arab tents; many flint flakes about, and "nawâmis" on hills near. 6.20. Continue on, east, along mountain top; patches of corn, and purple and yellow cistus. 6.55. J. Araif bears south-west six miles; W. Lussân runs up into J. Magrah from J. Araif. 7.5. Cross the head of a wâdy running south to W. Lussân; massive terraces and hundreds of flint flakes. 7.30. Another wâdy running south to W. Lussân. 7.40. Descend head of wâdy running south-east to W. Lussân. 8.40. Halt in W. Lussân. 10.45. Start, with two Arabs, south-east, up a branch of W. Lussân, and over the mountains. 11.30. Reach mountain over the head of W. Jerâfeh.[1] W. Jerâfeh runs between J. Araif el Retedj and J. Jerâfeh; it rises between J. Araif and J. Magrah, and flows south through a narrow pass between low hills; it then sweeps round to the east, draining a hilly basin under J. Jerâfeh, which appears from this point to be a triangular block. W. Garaiyeh rises between J. Jerâfeh and J. Magrah, and appears as a flat plain or basin half a mile broad. There is a good road this way across to the Arabah frequented by "Gôms." A long line of cliffs runs east-north-east, and west-south-west, and forms the boundary of J. Magrah at this

[1] See sketch of Pass between J. Jerâfeh and J. Magrah.



PASS BETWEEN JEBELS MAGRAH AND JERÂFEH. (*From a sketch by the late Rev. F. W. Holland.*)

A. Johnson, delt.

point. W. es Sîk heads with a branch of W. Jerâfeh running east-north-east under J. Magrah. The mountains north-east of J. Magrah are called J. Ramân ; W. Ramân rises about half a mile north of this point and runs east. A very large wâdy, or plain, W. Jehâmi, runs into W. Garaiyeh ; it is bounded on the south-west by a line of white cliffs ; is this Palmer's W. Ghamr? It took forty-eight minutes to rejoin the camels in the branch of W. Lussân. Hearing some Arabs were near we turned and went up the hill-side by a very steep path for camels ; on reaching the top we saw a good-sized valley running west with an Arab camp, at which we halted, about a mile and a half down. Cistus, hollyhock, and sandgrouse in the wâdy.

May 16*th.*—Started at 4.30 A.M. down W. Lussân, course west. 5.40. Left camels and walked south-west up a side wâdy ; five minutes lower down a large wâdy runs into W. Lussân from the north-east. 6.20. Reach mountain east of W. Lussân. There is no valley between W. Lussân and W. Garaiyeh ; there is a higher range to the south-east, beyond which lies W. Garaiyeh ; the lower mountains appear to run down from this to J. Araif. W. Garaiyeh is bounded on the south by a line of cliffs and groups of white hills. W. Lussân drains a large district of J. Magrah ; it is very broad below this, but narrows at the bend near J. Araif. The west was enveloped with mist, which gradually lifted. 8.0. Rejoined the camels, which had kept down W. Lussân, at an Arab camp near the mouth of W. Haroof (No. 2). 11.45. Started up W. Haroof (No. 2). 12.25. Reached the head of the pass. 1.5. Halt at a watering-place, "Umm Seiyer," a hole under a limestone cliff, with a slope of dung down to it. 1.30. Start and reach the bottom of the pass in about a quarter an hour ; then travel north-north-west across a plain with extensive alluvial deposits. 5.15. Halt in the bed of W. Dammath. There is no road except one pass between J. Magrah and J. Meraifig.

May 17*th.*—Started 4.10 A.M., and at 4.35 reached the end of the plain. 5.20. W. Guseimeh ; east of W. Moweilah, the ground slopes up from W. Guseimeh to the edge of the cliff on the W. Jaifeh side. 5.30. Halt at Guseimeh watering-place ; the water-holes were now full of good water. 6.5. Continued on through chalk hills in the centre of the wâdy. 6.35. End of central group of hills. 6.55. The bed of W. el 'Ain sweeps round to the left round a second and smaller group of hills. 7.20. Crossed W. Arêeshy, which has a large alluvial deposit. 7.30. Halt at an Arab camp. 2.10. Start for Ismailia. 3.15. 'Ain Moweilah. 3.55. Start down W. Moweilah. 4.35. A burial-place at the bottom of W. Moweilah; met an Arab who inquired after Palmer and Drake. 5.15. Halt. We had a heavy shower and a grand rainbow at sunset ; heavy storms seemed going on northwards all the afternoon. Some Towârah Arabs camped with us.

May 18*th.*—4.30. A.M. Started west over alluvial deposits. 5.45. Turned south-west across W. Moweilah. 6.45. W. el Arish runs through the gap in J. Helal about three miles north-north-west of us ; we appear now half-way between the south points of Jebels Helal and Moweilah.

There is no wâdy north of W. el Arish, only a plain between J. Moweilah and W. el Arish. 7.10. W. Mimbutter (?), a bed of alluvium, which took twelve minutes to cross, runs down from W. Meraifig. 7.27. W. el Arish; a large alluvial plain, ridge and furrow, covered with "Ajeram." 8.10. Reached west side of W. el Arish, and most glad to do so; the main body of the wâdy is on the west side, and is marked by a line of "turfa." 10.5. Started west up a hard gravel slope. J. Helal is of sandstone resting on granite, with long, low, outlying hills of chalk. 10.40. W. Hathîreh, full of broom "retem." 11.30. Reach other side of W. Hathîreh, and travel across a stony plain sloping to W. el Arish. 12.0. Rolling flinty chalk hills. 12.30. Descend to the head of a plain and wind round head of chalk hills. 12.40. Steep ascent for ten minutes to the top of a chalk hill. 12.50. Descend into plain. 1.25. A low pass over chalk hills, covered with sand, into a large plain. To the south is J. Thurgah beta Garaiyeh, a continuation of J. Sheiger, sandstone, running east and west. 2.45. W. el Mitmûthang on left, runs south-south-east to W. el Arish; beyond it is a large plain covered with herbage. We ascend a bank from the sandy plain to a stony plateau. 3.30. Halt near an Arab camp under J. Helal.

May 19th.—Start at 3.20 A.M. up a gentle slope. 3.50. Water-parting. 4.35. West point of J. Helal, which gradually runs out north-north-west, distant four miles. We have kept parallel to J. Helal since leaving W. el Arish. There are no chalk hills at this end, or where there are wâdies, as at Hathîrah. 5.5. J. Mugrah Helbush, a low granite hill one mile north-west J. el Ubragîn, a high granite range, distant about twelve or fifteen miles beyond the west point of J. Helal, chalk hill, parallel to the road, which runs over a level plain with occasional sand, and not much herbage, it drains north-west. 5.35. Cross a low water-parting. 6.0. Gentle descent to a large rolling chalky plain. 6.45. Large sand drifts. 7.0. Halt in W. Maghârah. 7.30. Continue journey, and at 8.15 cross a low water-parting; a line of chalk hills on the right, running north-north-west. 8.30. A low pass through a range of chalk hills running north and south. 8.45. Halted in W. el Hasanah (Azmon ?) near a well. There are three wells sunk in the wâdy bed, but the water is bad, and only fit for camels; they are only built round at the top, and have curious round troughs as if made out of old columns; the water from a "seil" in the wâdy is good. W. el Hasanah is a large wâdy running east-north-east; it forks just above the wells. From this point, roads go to Nukhl, Suez, and Ismailia. 11.55. Start across chalk hills. 12.50. Cross a small wâdy running north-east from J. Yeleg, which is three miles distant. 1.5. Descend into fertile plain draining from J. Yeleg; the road to Suez keeps on through J. Yeleg. 2.30. A large green wâdy running north across the plain; a break in the chalk hills under J. Yeleg. 3.25. Halt.

May 20th.—3.35 A.M. start; 3.50 sand drifts. 4.30. Cross the plain to the pass in J. Maghârah; there are many sand-drifts in the plain and ancient burial-grounds, tombs, and stone circles, two of which on a

low hill were 10 yards in diameter. Maghârah is approached by a long slope, and loses its height as it is neared. 7.10. "Emshash," a group of about seventeen wells; only one, which is built to the bottom with stone, has water now; the stones are cut with the draw-ropes; the water is not very good. Five minutes beyond the well is a group of seven old tombs on a ridge. Aid stopped behind to wash in the well; how many have done the same before! 8.15. Reach the foot of J. Maghârah, which lies nearly at right angles to our course; from Emshash there is an ascent up a stony slope; the road consists of ten or twelve very old camel tracks. J. Yeleg stretches west as far as I can see, though it is a remarkably clear morning. The plain and wâdy between J. Yeleg and J. Maghârah is called W. Dow; there is no water in it, but beyond is a watering-place, "El Jidy," a well like Emshash. 8.40. Halt. 9.50. Continue the ascent; and at 10.17 reach the head of the pass, which is called W. Abu Ragadât, and enter a gravelly basin, one and a half miles across. The basin is surrounded by sandstone mountains, capped with limestone, which form the head of W. Gûer, or Gwêr. 11.45. Extensive ruins of round houses and tombs; two Sayal trees; the wâdy runs north-east. We turn to the left up a branch called W. Maghârah. 12.40. Halt. 1.15. Continue up wâdy, and at 1.55 reach Maghârah, a dirty water-hole, with a slope of dung down to it; there are traces of old masonry. There is another water-hole, under a rock, about 100 yards below, with good water. There are twelve very large watering-troughs, built of rough stones, round the upper hole. On the hills near are ruins of rectangular buildings, 30 feet by 20 feet, built with roughly-hewn stones; there is no mortar, but wooden tie-beams are built in. The rock contained ammonites. 2.10. Left Maghârah. 2.50. Top of pass; shelving rock dipping to the north. Descend by a wild pass over polished rock; in many places the rock had fallen on the path, which was probably much better in former times. 3.30. W. Mutlakah running north. Fine Sayal trees; the rocky shelves oblige the road to turn north for the descent. 4.15. Many "nawamîs" and long lines of cairns, like those at Moweilah, along the mountain tops on the east; more than forty in one line. J. Sheikh Hamayd on the right. 4.45. Halt. Some Arabs of the Alaideh tribe coming up, and proving troublesome, we started on at 6.45, and at 8.40 stopped for the night.

May 21*st*.—At 2.45 A.M. continued our journey over a rolling plateau with drifting sand. 4.45. End of the sand, and commenced to descend. 5.15. Halt. An extensive view over a large plain covered with hills of drifted sand. 7.0. Start. El Mahâddab, a watering-place, on the right. 8.30. J. Ras el Ellôo, a low mountain three miles to south-west. 9.0. Halt half-an-hour for camels to feed. 11.45. "El Motalla," a prominent point with "nawamîs"; found an arrow-head in a flint factory. Commence descent; a long low range, in the distance, on the south. 12.35. Halt. 2.30. Continue journey, and at 4.45 halt for the night.

May 22*nd*.—Start at 3.20 A.M. At 3.55 the head of a depression which runs south-west, and after two miles sweeps round to the west. 5.0. A long higher range of sandhills north of us at about two miles

distance; the sand is blown up from the north. A number of snakes' egg-shells seen yesterday and to-day. 6.15. Halt. 7.45. Continue journey. 10.55. Reach a high ridge after a long ascent. J. Hathâyib and Ras el Elôo in sight. J. Umm Ukshayb, a long low range, running north-east by south-west, about twenty-five miles distant on the right. 2.30. Sighted Ismailia and a large vessel going up the canal. Endless ridges and sand-drifts, walking not so good as yesterday. 2.45. Halt for the night.

May 23rd.—Start at 3.20 A.M., and reach canal at 7.15.

The above is an almost verbal transcript from Mr. Holland's field book, omitting the bearings, &c., which have been utilised in the construction of the map. It will be more useful to students in this form and will enable the general reader to follow Mr. Holland's route on the map, and realise the extent and value of his work, as well as the difficulties which he had to encounter.

C. W. W.

METEOROLOGICAL OBSERVATIONS.

Date and Place.	Minimum Thermometer.	Barometer.	Altitude.	Remarks.
	Degrees.	Degrees.	Feet.	
May 6, W. Tureifeh	47	28·52	1560	N.W. Breeze, cloudy.
Junction of Wâdies Rowâg and el Arish	....	28·70	1390	
„ 7, Camp W. el Arish	40	28·90	1200	Dew, light breeze from N.W.
Nukb el Fahdi	....	28·70	1390	
„ 8, Camp W. el Fahdi	49	29·10	1015	No wind, cloudless.
Pass J. Sheraif	....	28·90	1200	
„ 9, Camp W. Utvâdif	53	29·33	800	
„ 10, Camp on plain	46	29·40	735	
Sherafâh Pass	....	29·30	825	
„ 11, Camp W. Moweilah	42	29·35	780	
„ 12, Camp W. Guseimeh	42	29·03	1080	
Hill N. of W. el 'Ain	....	28·50	1580	
„ 13, Camp W. Guseimeh	49	29·10	1015	
„ 14, Camp W. Jaifeh	....	28·60	1485	
Mouth of W. Kadeis	....	28·55	1530	
Ain Kadeis	....	28·36	1715	
Head of W. Haroof	....	27·12	2935	
„ 15, Camp W. Harâfeh	....	27·40	2655	
Arab tents on hill	....	27·00	3055	
Hill above W. Jerâfeh	....	26·60	3460	
„ 16, Camp W. Lussan	....	27·35	2705	
„ 17, Camp W. Dammath	....	....	....	
„ 18, Camp W. Moweilah	....	29·45	685	
W. el Arish	....	29·50	640	
Level of chalk hills	....	29·20	920	
„ 19, Water-parting	....	29·40	735	
W. el Hasanah	....	29·30	825	

Date and Place.	Minimum Thermometer.	Barometer.	Altitude.	Remarks.
	Degrees.	Degrees.	Feet.	
May 20, Camp in plain	....	29·32	810	
Foot of J. Maghârah	....	29·17	890	
Top of pass	....	28·98	1125	
Do.	....	28·60	1485	
W. Mutlakah	....	29·10	1015	
„ 21, Plateau	....	29·10	1015	
El Motalla	....	29·36	770	
„ 22, Head of depression	....	29·72	440	
Top of ridge	....	29·68	475	

"HETH AND MOAB."

This book, by Captain Claude R. Conder, R.E., is a popular account of the recent expedition to survey Eastern Palestine, interrupted and stopped by peremptory orders from Constantinople, as the readers of the *Quarterly Statement* already know. The work has now been out for two months, having been published in October, and the first edition is already nearly exhausted. It treats, in twelve chapters, of Kadesh on Orontes, the Land of the Hittites, the Phœnicians, the Land of Sihon, the Land of Ammon, Mount Gilead, Rude Stone Monuments, Syrian Dolmens, Syrian Superstitions, the Belka Arabs, Arab Folk-Lore, and the Future of Syria. There are also appendices. The following extracts are offered as some kind of guide to the contents of the volume.

The Cemetery of Tyre.

"But if the Tyrians were not here buried, where (it may be asked) was their cemetery? This question we may, I think, now answer. They were buried on the island, where the modern cemetery now exists, south of the town. Tyrian tombs consist of a chamber with *kokim*, or tunnels for single bodies, running in from the walls—three or four on each side of the chamber, as in Jewish tombs of the earliest period; but there is an essential difference between the two, for the Jewish chamber was reached by a little door from one side, the entrance being cut in the face of a cliff or steep slope. The Phœnician, on the other hand, like the Egyptian, sunk a shaft down from the flat top of the rock, and placed his chamber at the bottom, filling the shaft no doubt with stones, or covering it with a slab. Thus, while the Jewish tomb remains still recoverable, though rifled, the Phœnician is hidden as soon as a little rubbish has gathered over the rock. Curiously enough, we were able to prove this, and to show where one Tyrian, at least, was buried on the island, for in the cliff of the little bay

in the south-west angle of the double island is a hole, and through this it is just possible to squeeze into a small cavern called 'the Champion's Cave,' about ten feet by eight, and eleven high. Looking up, we could see the shaft which was the original entrance, covered with flat slabs, which are hid beneath the soil in which the modern graves are dug. The champion's grave had been plundered by some former visitor, and only the place where his sarcophagus lay could be seen; but on the top of the cliffs, which are about thirty or forty feet high, a large sarcophagus is still lying. To prove our contention more completely, excavations in the cemetery would be necessary; but as single tombs are rare, and the site of any necropolis generally immutable in the East, we may fairly consider that this discovery indicates the site of the old Tyrian cemetery."

The Fertility of Mount Gilead.

"Sycamore, beech, ilex, wild fig, are said to be among the species of its forest trees, and the carpet of wild flowers in spring is more luxuriant than elsewhere. Clover and ragged-robin, the red and white cistus, clematis, crow's foot, purple lupins, squills, the pink phlox (commonly called Rose of Sharon), the anemone, cyclamen, corn-flower, salvia, asphodel (both yellow and white), with vetches and wild mustard, marigolds, borage, moon-daisies, pheasant's-eye and cytizus, also orchids and broom, star of Bethlehem and poppies, tulips, and buttercups, are among the familiar plants on these hills. The mock-orange (styrax), the may, honey-suckle, and antirrhinum are found in the woods; and the oleaster, or wild olive, is not unfrequent. The lentisk, which is so common a shrub (with arbutus and laurestinus), is akin (at least according to some) to the balm of Gilead; but whatever be the real plant or shrub of the balsam, the traveller who has wandered over the Moabite deserts, or the scorching plains of Bashan, will not fail to find that there is 'balm in Gilead.' In its glades he may hear the blackbird's note, the nightingale, and the twitter of many familiar song-birds. Here the tomtit, the hoopoe, the beautiful jay, the roller, and the bee-eater, rejoice in the shade of the woods by the clear streams; here the row and the fallow-deer still find a covert. The visitor cannot wonder that Gilead should be indicated to the persecuted Jews as a refuge and home, and, perhaps, had Israel known what lay before them in the dark mountains of the west, it would not have been only Reuben, Gad, and Manasseh who chose for their lot the eastern hills."

Rude Stone Monuments.

"The religion of the ancient races is intimately connected with all rude stone monuments, and temple and tomb are as closely united as they still are in a cathedral, with its famous dead, in our own land. Famous stones have names which seem to give them a human individuality. Such are the King-stone, Long Meg, or the stones of King Orris, Woden, St. Patrick, St. Declare, or St. Fillan in the British Isles. In France we have Pierre Martine and others, and the names given to stones by the Khassia tribes,

such as 'stone of the oath,' 'of grass,' 'of salt,' are equally instructive. The student who neglects the indications afforded by tradition, and endeavours to make the monuments tell a new tale without crediting that related by the descendants of those who erected the menhir or dolmen: who leaves out of account the beliefs and hopes and sorrows of those childlike ages, and thinks that man in savage times was but the utilitarian which civilisation has made him, is not likely really to penetrate into the mystery of these earliest of human monumental structures, and fails to sympathise with the ideas of builders whose conceptions of rugged grandeur, and of the moral effect of huge masses and of number, still excite the admiration of men in times when art and skill have so far surpassed the first efforts of the illiterate and prehistoric period."

The Meaning of the Syrian Monuments.

"The menhir is the emblem of an ancient deity, the circle is a sacred enclosure, without which the Arab still stands with his face to the rising sun. The dolmen, whether modern or prehistoric, is (when free-standing) an altar rather than a tomb. The cairn is not always sepulchral, being sometimes a memorial heap; the disc-stone is a distinct production, perhaps of a later age. Such evidence as we possess shows that the rude tribes beyond Jordan buried their dead in small chambers cut in the rock, or in tombs similar to those of the Phœnician and the Jew, and not beneath the table-stone of a free-standing trilithon; while the mounds of the Jordan valley and of the Hittite plains, whether citadels or sacred hills, have as yet never yielded sepulchral deposits."

To say that we still find the altars of Balak standing on Nebo may be premature. To point out the great dolmen at 'Amman as the throne of Og may be considered fanciful by some; but we may at least claim that we find structures which seem to resemble the early altars and pillars mentioned in Scripture still existing at places which, on entirely independent grounds, may be identified as representing the Mizpeh of Jacob, and the holy mountains of Nebo, Baal and Peor. While in Judea not a single dolmen now remains standing, because in their zeal for the faith of Jehovah, the good kings Hezekiah and Josiah swept away for ever the 'tables of Gad.'"

Fish Superstition.

"The mosque of el Bedawi, at Tripoli, contains in its courtyard a cistern, or pond, of sacred fish. These are believed to have disappeared during the Russo-Turkish War, and to have been transformed into Moslem warriors, who fought for the Sultan. After the war they resumed their fish-form, and returned to Tripoli, re-appearing in the tank. According to M. Blanche, the Beidawîyeh, as the mosque is called, takes its name from St. Antony of Padua, whose church once stood here. St. Antony, be it remembered, was the saint who preached to the fishes, and it is probable that the sacred fish-pond was found already existing by the Crusaders, and was then consecrated to the saint. Tripoli was once a sacred city of

Venus, and stands on the stream of Kadesha, or Kadesh. To Venus the sacred fish were no doubt once holy, and at Ascalon and Accho, down even to the fifth century, the Syrian Venus had still her sacred ponds. It is interesting, therefore, to note that there yet remains at Accho (St. Jean D'Acre) another pond of sacred fish, and that a riot was caused in this town not many years ago by the imprudence of a monk who fished up and broiled for his own eating one of the supernatural fish of Accho."

The Character of Muhammad.

"Muhammad was a poet who had gathered a scanty crop of materials from sources almost inexhaustible: these ideas he clothed in language which cannot compare for force and beauty with that of the originals, and he repeated them with wearisome iteration. His ideas were essentially narrow, and without originality, as compared even with the teaching of Zoroaster and Buddha; and, however great his triumph among Arabs, who were mere savages in a boundless wilderness, the power of Islam has been consolidated by men not of Arab race, and it is impossible for the civilised European, unless led astray by enthusiasm or by interest, seriously to maintain that the barbarous fatalism of Islam is the religion of the future."

HAMATHITE AND EGYPTIAN.

It may be of interest to give the values of some of the Hamathite signs which would result from the supposition that the phonetic sound is the same as in Egyptian.

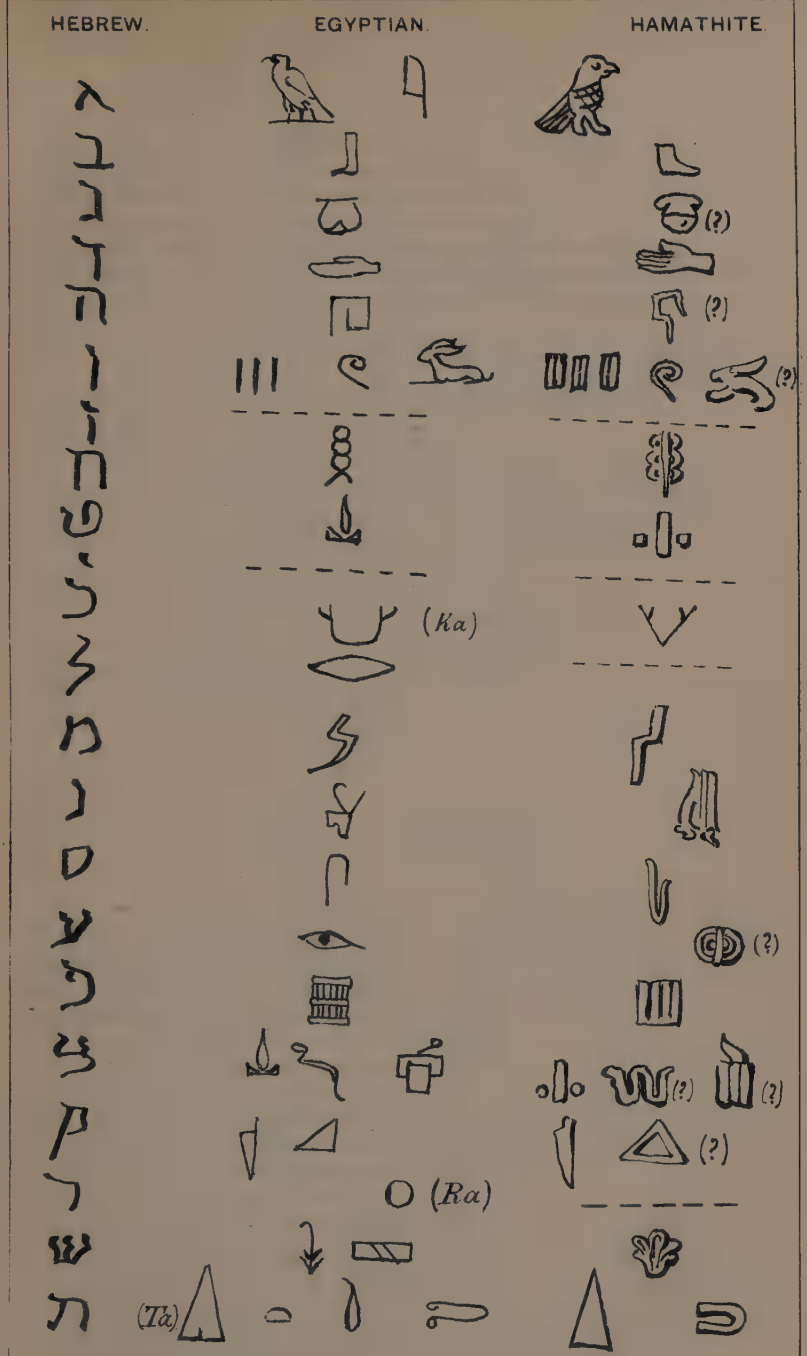
The comparison with the Semitic alphabet was established by Mariette; as regards the rabbit, I still incline to think the explanation possible. Professor Sayce gives us a rabbit from Boghaz-Keui ("Trans Bib. Arch. Soc.," 1881, p. 257). The use as a suffix (p. 276) would agree with its value as *Vau*.

An interesting suggestion in this matter was made to me by Rev. W. Wright, namely, that the Hittite names on the Egyptian monuments should be compared with the Hamathite texts to see if any of them (personal or geographical) occur.

I understand that Professor Sayce connects the upper of the three symbols here given with the name of a goddess, 'Ate, עתי, worshipped in Northern Syria ("Trans. Bib. Arch. Soc.," 1881, p. 260). Now the combination shown occurs on the texts from Jerâbis three times, and if the Egyptian equivalents are correctly given it would read 'Atu (עתו).



Another suggestion as to these figures may also be hazarded. The two signs here

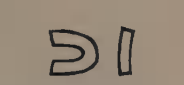


Comparison of Hebrew and Hamathite, based on Mariette's identification of Hieroglyphic Equivalents for Hebrew Sounds.

C. R. CONDER, R.E., *del.*

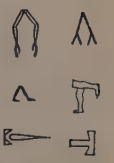
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shown indicate a suffix, according to Professor Sayce. According to the attached proposed alphabet, they would read *eth* or *ath* (אֵת), which might be a feminine noun ending.



I offer such notes as suggestions only, not as proven facts, believing it possible that, either these unread monuments have a common origin with Egyptian, or that the Northern nations borrowed their signs from Egypt itself at an early historic period.

Lieut. Mantell, R.E., has kindly obtained for us a photograph of the wooden texts on the tomb of Hosi ; and Emile Brugsch Bey has kindly given him a squeeze, which has also arrived safely, of the wooden inscription at Sakkarah. The interest of these lies in the fact that they are Archaic specimens of hieroglyphic writing in relief, as in the Hamathite texts. Of the symbols published in the last *Quarterly*, as many as twenty-five are found on these archaic monuments. The comparison of these texts will, I hope, lead to further illustration of the Hamathite. At present the result of the comparison of the wooden texts with the so-called Hittite ones is the addition of three characters, viz., first *Ka*; the well-known emblem for "spirit," which seems to occur on seals ; secondly, a determinative ; and thirdly, an unusual character from the Sakkarah texts, also found at Jerâbis.



C. R. C.

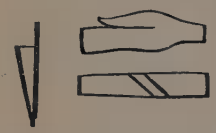
HITTITE GEOGRAPHY.

The Karnak lists from No. 120 to 349 give a long category of towns in Northern Syria, and Mesopotamia, and possibly in Asia Minor. A few of these now begin to be recognisable, and the following identifications are partly those published by the Rev. H. G. Tomkins and partly new suggestions.

121. *Ai*, perhaps Kefr Aya, south of Homs .... H. G. T.
122. *Amau*, or *Amatu*, perhaps Hamath .... H. G. T.
125. *Tharmanna*, perhaps Turmanîn .... H. G. T.
157. *Khallos*, perhaps Killis .... C. R. C.
165. *Kanretu*, possibly Kinnesrin, near Aleppo .... C. R. C
189. *Nireb*, probably Nirab, south of Aleppo .... H. G. T.
190. *Theleb*, perhaps Edlib .... C. R. C.
196. *Nishapa*, clearly Nîsib, near Bir .... H. G. T.
201. *Natub*, perhaps Ain Tab .... H. G. T.
203. *Aithna*, probably Ataniya .... C. R. C.
204. *Sukana*, probably Sukneh .... C. R. C.
205. *Tuaub*, probably Taiyibeh (C. R. C.) or Kefr Tob H. G. T
206. *Abir* (*na*), *th* probably Bir (=Birejik) .... C. R. C.

237. *Artha*, probably Aradus .... C. R. C.
252. *Sur* appears to be Tyre .... C. R. C.
254. *Nuzana* (also noticed with Tyre in the Mohar's journey) seems to be a stream or town by a river, probably the Kasimîyeh.
280. *Pederi* =Pethor, near Euphrates.
308. *Amak*, perhaps the present 'Umk plain preserves the name near Antioch .... C. R. C.
264. *Karshua*, perhaps Karis .... C. R. C.
311. *Khalbu*, =Aleppo ....

Among the Hittite allies at the battle of Kadesh were the Karkish or Kalkish, whose names may survive at the later Calchis—a town of this name existed south of Baalbek, and another near to Aleppo. The Dapur conquered in this campaign may be *Dibl* east of Tripoli.



In this same connection it may be interesting to note the hieroglyphic characters which denote the famous city of Kadesh. Two at least of these emblems are identical with signs used on the supposed Hittite texts.



In the same connection the name of Kheta Sar, as written in hieroglyphic, is also of interest, including as it does the Egyptian emblems for the name of the Hittites.

C. R. C.

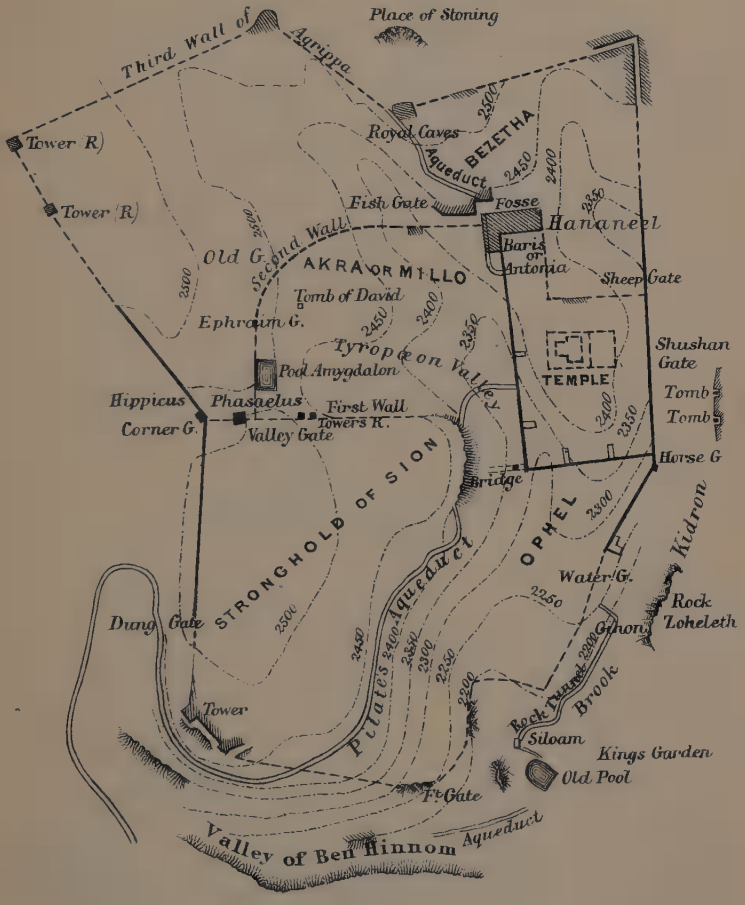
JERUSALEM OF THE KINGS.

With due deference to Professor Sayce, and to those who may agree with his views, I should like to be allowed to ask a few questions concerning the sketch and the two papers which he has contributed to the last *Quarterly Statement*. It is, no doubt, possible that the long list of authorities who agree in substance in regarding the Jerusalem of the Old Testament as approximately identical with the modern city may be wrong, and Professor Sayce, who confines its site to the Ophel spur, may be right. I do not, however, gather that any *new fact* unknown to Robinson, Williams, Lewin, Tobler, Thrupp, and Warren is brought forward by Professor Sayce in support of his views, and I think I may say with considerable confidence that there are facts represented on Sir C. Warren's plans and recorded in the reports of the exploring officers which militate very strongly against Professor Sayce's views. As regards these facts, in the first place, I would ask—

I. How is it shown that Dr. Guthe discovered a valley "which sepa-

ANCIENT JERUSALEM.

Showing the Rock Surface & Ruins.

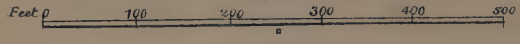


C. R. Conder R.E. del. 1879. A.D.

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DR GUTHE'S WORK

Site Plan of the principal remains.





REMARKS.

A. Wall
B. Wall
C. West face supposed tower stones not drafted stand on rock are 2 to 4 feet long 1½ ft high: two courses.
D. Rough wall 1 course stones about 2 ft by 1 ft.
E. Wall 1 course drafted stones on a low rock scarp stones about 1ft by 2 ft.
F. Old extent of rock pool at Siloam.
G. Corner drafted stones 1ft to 3ft long 1½ ft high three courses.

C.R. Conder, Capt. R.E.
19. 5. 83.

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rated Zion from Moriah?" Laying down the valley shown by Professor Sayce on the Ordnance Survey map, I find that there are a number of known levels along its supposed course. The mines which Sir C. Warren sank to the rock on Ophel in this vicinity (Nos. 8, 9, 14, 25, 38, &c.) give us far more detailed knowledge of the rock in this position than can be gathered from anything published by Dr. Guthe. The mines which Dr. Guthe drove I was courteously allowed to examine, and to me it appears perfectly certain that the work done was not sufficient to allow of any conclusions being drawn which in any way might be placed on a footing with the work of the English Society. It is greatly to be regretted that Dr. Guthe has never published any site plan of his works, but this deficiency I have endeavoured roughly to supply. It is also to be regretted that no levels appear to have been taken in his mines which might definitely fix the height of the rock where he uncovered it; but, on the other hand, we already possess so many observations as to render it impossible to suppose that any valley such as that shown on Professor Sayce's sketch can ever have existed. The rock was found by Dr. Guthe at the points *D* and *E* (see attached site plan), so near the present surface that, although no levels were obtained, his results only served to confirm those already reached by Sir C. Warren. It may therefore, I think, be considered proven that no valley dividing the Ophel spur in twain exists, and that any theory founded on this supposition is unsound. The geological evidence might be found to agree with the preceding arguments, but the rock as found by Dr. Guthe alone is sufficient to condemn the theory.

II. How is it shown that Dr. Guthe recovered the walls of David and Solomon? I was allowed to examine the masonry he uncovered at various points, and, judging by that which I have examined in other ruins in all parts of Palestine and Syria, I should feel no hesitation in saying (without intending any disrespect to Dr. Guthe) that he had recovered the remains of houses and other buildings not older, in all probability, than the fourth century A.D. It was not a mighty rampart, such as that planned by Sir C. Warren on Ophel, that Dr. Guthe found, but much thinner walls of comparatively small ashlar—the foundations, in fact, of those monastic and other buildings which we know historically to have occupied this spur in the early Christian centuries.

It appears, in short, to be assumed that the Ophel spur has, as yet, been but little explored. The fact is, however, that the northern part was very thoroughly examined by Sir C. Warren, and that there is but very little *débris* on the southern part, which has been again and again visited and examined by various explorers, including M. Clermont-Ganneau. In 1872 I reported on the remains of rock-cut aqueducts visible on the surface, and since destroyed by quarrying, and on Sir C. Wilson's survey the rock will be found showing on the surface in many parts of the southern portion of the Ophel spur. It appears to me that theories which take no account of these varied observations can hardly be regarded as of great value.

III. Proceeding next to the considerations which are more purely theoretical, I would draw attention to the legitimate outcome of Professor Sayce's sketch when compared with the Survey of Sir C. Wilson. If the supposed valley be traced on the Survey, it will be found that the area within the walls south of this line, according to Professor Sayce's sketch, is not larger than 8 English acres. This is a good deal smaller than Lincoln's-Inn-Fields, and considerably smaller than the base of the Great Pyramid. The courts of Herod's Temple occupied about four times this area, and an ordinary English field is generally larger than Professor Sayce's Jerusalem. This was the City of David according to the new theory, the northern part of the spur being Ophel. The capital of Syria, in David's time, occupied consequently only 8 acres, and in the time of Manasseh, when Ophel was included, it still only occupied about 15 acres. The Jebusite village which Professor Sayce proposes (for the first time) to place on the Temple-hill was, he informs us, cleared away by Solomon.

With regard to these facts, two questions may be asked, which are as follows :—

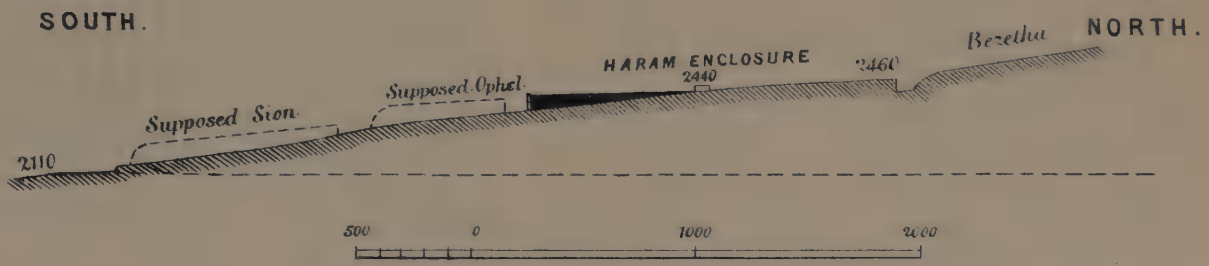
Is there any good reason to suppose that the capital of David's kingdom was a village only about a third the size of any ordinary Fellah hamlet of modern Palestine? Can any ancient city be pointed out by Professor Sayce whose walls only included an area of either 8 or even of 15 acres? Certainly in Palestine we never found an ancient town of such minute size, and unless authentic plans can be produced of famous cities occupying such an extent, we are justified, I think, in considering this a very important objection. For purposes of comparison I here give the areas of various cities of which good plans exist, and the differences will, I think, at once strike the reader :—

	Acres.
Cæsarea (within the Roman walls)....	300
The Hill of Samaria (within the colonnade)	160
Rabbath Ammon { upper city 29 acres / lower city 31 „ }	60
Gerasa (Roman walls)	200
Tyre (the island town only)....	100
Gezer (the hill site only)	40
Jerusalem, in 30 A.D.	200
„ in 70 A.D.	300

No comparison is, of course, possible with such huge cities as Thebes, Memphis, Nineveh, or Babylon. Nineveh (see Smith's "Assyrian Discoveries," p. 87) had, according to modern plans, an area of 2,500 acres. Babylon (see Professor Oppert's plan) was 12 miles square (72,160 acres). Modern London, we may note, occupies 700 square miles, with $4\frac{3}{4}$ million souls of population. The usual size of a modern Fellah village is from 20 to 40 acres, but Jerusalem was a capital, and a place at least as important as Tyre on its island. David's conquest extended over at least 15,000

SECTION OF OPHEL & TEMPLE HILL.

Natural Vertical Scale.



C.R. Conder, Capt. R.E.
12. 10. 83.

To face page 22.

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square miles of country. Solomon was married to the daughter of the Pharaoh, and was allied as an equal with Hiram the Phœnician. The city was so strong that even the great King of Assyria was unable to take it, and Nebuchadnezzar laid long siege to it before he conquered it. In later times (probably in Hezekiah's reign) the civilisation of Jerusalem was so advanced that a fine inscription was carefully cut on rock to record the making of the Great Siloam Tunnel.[1] Surely all that we know of Egypt and of Assyria directly contradicts the supposition that a capital like Jerusalem can only have occupied an area of 8 acres.

The second question connected with the matter of the area regards the history of the city. Professor Sayce speaks, it is true, of præ-exilic Jerusalem, but his sketch applies to the Jerusalem of Nehemiah, and his quotations are taken from the Books of Ezra and Nehemiah quite as often as from earlier writings. It follows, then, that down to about 300 B.C. the city still did not occupy more than 15 acres in area, yet in the time of Christ, as Professor Sayce will, I think, agree, the hills west and north of the Tyropœon Valley had become covered with buildings, and were included within walls. When did this great increase of area take place? Jerusalem in 30 A.D. occupied 200 acres, but as between 200 B.C. and 140 B.C. the whole country was undergoing great troubles, and the capital was often in ruins for some considerable time, we cannot well suppose it to have begun to grow in size until the time, at earliest, of the Hasmonean kings. Is it possible, I would ask, that in 200 years an Oriental city increased from 15 to 200 acres, and if so astonishing a growth occurred, how is it that we have no record of it, and no notice of the real builders of the new walls which Josephus ascribes to David, Solomon, and succeeding kings?

IV. Hitherto we have considered this question from a purely practical point of view, comparing Professor Sayce's sketch with the Survey, and with the results of exploration, and indicating the inevitable consequences of the new theory. No reference has been made to the accounts given by ancient writers, or to the words of the Bible narratives. It is well known that Professor Sayce values Josephus and Herodotus also at a very low estimate, and that he also values the Book of Chronicles in the same way, accusing the author of "loose wording," and "confusion" (*Quarterly Statement*, pp. 212, 221).

What is here said will, therefore, have weight only with those who

[1] It will be best not to complicate this inquiry by entering into the question of the date of the Siloam Inscription. Dr. Isaac Taylor has published the views which result from his special study of the alphabet (cf. Alphabet, Vol. I, p. 238), and his opinion must carry very great weight in the matter. He concludes that the text may possibly be as old as Hezekiah's time, but he is himself inclined (p. 237) to regard it as not earlier than Manasseh. The arguments as to the forms of certain letters which he adduces appear to me entirely to preclude the possibility that the text is, as Professor Sayce now suggests, as old as Solomon's time.

believe that writers who described what was before their own eyes are more likely to have been right than students who eighteen centuries later endeavour to reconstruct ancient cities by the aid of certain selected expressions or passages in the writings of the authors in question.

As, however, Professor Sayce makes use of the Bible narratives, he may, perhaps, attach some value to certain passages which are not mentioned in his papers, and although he does not accept the evidence of Josephus as having any accurate value, it seems impossible to suppose that he is prepared entirely to reject the general statements of that author. I propose, then, to consider the Biblical statements as to the population of Jerusalem, and the account given by Josephus as to the walls.

As regards *population*, it is stated (2 Kings xxiv, 14) that Nebuchadnezzar took captive "all Jerusalem . . . ten thousand captives . . . none remained save the poorest." Either this statement must be explained away, or we must suppose a density of 1,000 souls per acre, giving only $2\frac{1}{2}$ yards by 2 yards per soul. Modern Jerusalem has a population of 20,000 souls within the walls in 200 acres. Modern Jerusalem is a very crowded city, but Professor Sayce's Jerusalem, if the Book of Kings is correct, had ten souls in the same area now occupied by one.

Ezra brought to Jerusalem 1,496 males (or 3,000 souls) in addition to the population which previously existed, which might be deduced to have been about 9,500 souls (Ezra ii, 64, and viii, 3–14) out of 42,360 exiles who came back to Judea. We have thus a population of at least 3,000, and probably of 12,000 in Ezra's time, yet in the Book of Nehemiah we read: "The work is great and large, and we are separated upon the wall one far from another" (Neh. iv, 19); and again, "Now the city was large and great, but the people were few therein" (vii, 3). Again, rather later, a tenth of the village population (that is, 3,000 to 5,000 souls) is brought into the town (Neh. xi, 1; cf. vii, 66), giving a population of at least 10,000 souls as before the siege—a total which, as before shown, could not be the population of a town of 15 acres.

Taking an average from many towns and villages, we may state 100 souls per acre as the normal population of any Syrian city; ancient Jerusalem possessed open spaces (רחב) and a royal palace and a governor's house (Ezra x, 9; Neh. iii, 7; viii, 1 and 16; xii, 37). The maximum of population, according to Professor Sayce's view, would thus be 800 souls in David's time, and 1,500 souls in the later days of Manasseh or of Ezra. Not only does this disagree with the Bible, but the result seems clearly impossible, considering the extent of Solomon's dominions and the size of ancient Asiatic capitals.

If, on the other hand, we accept the views of Sir C. Warren and Mr. J. Fergusson as to the extent of the ancient city, we shall obtain results in perfect accord with the Bible statements of population.

The areas are as below :—

	Acres.
Upper city	140
Lower city	45
Ophel	15
Total....	200

The normal population would be 20,000 souls, and when the city contained only some 5,000 souls it might consequently well be considered very empty. The Biblical statements as to population are consequently in favour of the general opinion, and not of the new theory.

As regards the testimony of Josephus, I have only to ask, Why is the following statement unworthy of credence ?

"Now of these three walls the old one was hard to be taken, both by reason of the valleys, and of that hill on which it was built, and which was above them. But besides that great advantage as to the place where they were situated it was also built very strong ; because David and Solomon and the succeeding kings were very zealous about this work. Now that wall began on the north at the tower called Hippicus, &c., &c." (5 "Wars," iv, 2).

Has Professor Sayce considered this passage ? Is he prepared to prove that this "old wall" is his wall, and that Hippicus was on the Ophel hill ? or does he reject the whole account of Jerusalem given by Josephus ? I do not think he will find it possible to reconcile Josephus with his theory. The attempt has been made long since to do this, and to place Akra on Ophel, and it has always been found to lead to helpless confusion of the topography, and to final denial of some or other statements of the ancient accounts. We must then glance for a moment at the question of the Akra.

V. Sir C. Warren and Professor Sayce agree in identifying Zion and Akra and the City of David as all three one and the same. We may assume, then, that this view rests on good grounds, which it is unnecessary here to detail. Sir C. Warren, however, writes these names west of the Temple, Professor Sayce at the end of the Ophel spur. I think no student can read Josephus without seeing that the former view is correct. A "broad valley" separated Akra from the Temple (5 "Wars," iv, 1), and such a valley exists between the two as identified by Warren, Robinson, Conder, &c. ; but we have seen that it is proved that no such broad valley ever cut in two the Ophel spur. Of the levels we will say nothing, for Akra was cut down by the Hasmoneans ; but the "broad valley" noticed by Josephus has no existence, according to the view of Professor Sayce.

VI. We must now say a few words on the facts which really lie at the root of the new controversy. It has come to be generally allowed that the view which I have advocated as to the position of Gihon is correct, and Professor Sayce adopts my identification with the so-called Virgin's Fountain. But does it therefore follow that the great aqueduct to Siloam is intended in the passage where Hezekiah is said to have brought the

water down "on the west side of the City of David?" To me it appears that the Siloam Pools are on the south rather than on the west of the spur, where Professor Sayce places the City of David. Until the year 1881 I was always unable to explain the passage in question to my own satisfaction, but during that year I reported on the aqueduct found by the Fellahin leading away westwards from the Siloam Pools on the slope of the western hill now called Zion. We ascertained the levels of the channel, and its antiquity is shown by the great accumulation of *débris* above it. As it was found after Professor Sayce's visit, it may have escaped his notice, for it is not mentioned in his paper. If the term "City of David" (*i.e.*, the capital of David's time) were applied, as I believe it should be applied, to the two western hills (the Upper City and Akra of Josephus), the discovery of this aqueduct would, I think, be found to explain the difficult passage (2 Chron. xxxii, 30) more completely than it can ever be explained on Professor Sayce's theory.

The question of the position of the Tombs of the Kings is intimately connected also with the new theory. To me it appears quite clear that two royal cemeteries existed. The first was in the City of David, and the more famous Kings of Judah were buried in it. It seems to me most probably to be the ancient Jewish tomb still existing immediately west of the traditional Holy Sepulchre. This theory I have often explained in detail, and it has met with acceptance by many. But of Ahaz we read, "They brought him not into the sepulchres of the Kings of Israel" (*i.e.* David, Solomon, and Rehoboam), 2 Chronicles xxviii, 27. Uzziah was buried in his own garden (probably the "garden of Uzzah"), and Manasseh and Amon appear also to have been excluded from the original cemetery. If we suppose the garden of Uzzah to have belonged to the royal palace on Ophel, we obtain a second royal cemetery, to which allusion appears to be made in the Book of Nehemiah, and I believe it will be found that every passage in the Bible is satisfied by this view, without its being necessary to place the City of David in a practically impossible position.

These two explanations as to the aqueduct and the tombs will be found to dispose of all the real arguments as yet brought forward in favour of the new theory, and I may perhaps be allowed to say that I endeavoured, before publishing my views as to ancient Jerusalem, to weigh these arguments impartially while coming to a conclusion.

VII. Professor Sayce's views as to the history of the various pools agree in great measure with those which I published in 1879, in the "Handbook to the Bible." There is, however, a good deal that must remain conjectural. We do not really know where the Fuller's Field was, although Professor Sayce's view as to the upper and lower pools is identical with that which I have published.

The argument as to the date of the Siloam aqueduct seems to me, however, to fail entirely. In the first place, is it necessary to conclude that "the waters of Shiloah that go softly" (Isa. viii, 6) were running in an aqueduct? May they not have run in an open stream down the valley?

In the second place, when we reflect on cases like those of Adullam, Keilah, Shiloh, &c., it becomes quite clear that it is not necessary to suppose that ancient fortresses were always fixed close to springs. The strongest position was chosen, and if water did not occur within the walls cisterns were hewn. It is hardly necessary to prove this in detail, but the amount of available evidence is quite conclusive in the matter.

I have failed to find any passage in the Bible which can be considered to contradict the direct statement of the chronicler, according to which the Siloam Tunnel was hewn by Hezekiah, and I therefore offer the following proposed history of the Jerusalem pools, which appears to reconcile all the Biblical passages without the necessity of supposing "that the chronicler has confused" distinct localities. According to my view we should suppose—

1st. In the time of Ahaz, a spring (Gihon) with a stream down the Kedron, and two pools for rain-water (upper and lower), with a rock conduit (still existing, as do the pools) joining the upper to the lower.

2nd. In the time of Hezekiah, the construction of a new pool *at the spring*. The cave pool of the Virgin's Fountain is evidently artificial, and was probably cut at the same time as the aqueduct. This is the "pool" that was made by Hezekiah, where only a natural spring before existed. At the same time Warren's shaft was cut in order to "bring water into the city" by its means, and the Siloam aqueduct was excavated and *was continued beyond the pool westwards on the slope of the hill of the upper city, which was the stronghold of Sion, and part of the City of David.* Even these alterations did not bring the spring of Jerusalem within the walls, although the Siloam Pools were close to the ramparts. Jerusalem always largely depended, even in its best days, on the great reservoirs described by Josephus and Tacitus. It follows from this view that the Siloam Inscription cannot be older than Hezekiah, and this agrees with the strong epigraphic arguments of Dr. Isaac Taylor respecting the date of the text.

VIII. In conclusion, a few details ought to be separately noticed. The valley-gate and the dung-gate were 1,000 cubits apart. On Professor Sayce's plan, when applied to the Survey, they will be found to be 300 cubits apart, and I think he will find it very difficult to give the required distance, without hopelessly crowding the other points on the wall. The circumference which he supposes is, in fact, too small to agree with these measurements. Professor Sayce's plan also requires us to suppose two gates both called "the corner gate." According to my plan all the references can be applied to one gate. The corner gate was 400 cubits from the gate of Ephraim, along the wall (2 Kings xiv, 13). Professor Sayce's plan makes it only 200 cubits distant, and the reason is clearly, as before, that his wall is too short to allow space for the gates.

Professor Sayce follows the Crusaders in placing En-rogel at the Bîr Eyûb. The discovery of Zoheleth induced Sir C. Warren to place En-rogel at the Virgin's Fountain—the only true *En*, or spring, at Jerusalem (*cf.* 1 Kings i, 9). As to Zoheleth, I am prepared to show the radical identity of the Arabic and Hebrew words which M. Clermont-Ganneau

has compared, and to account, on dialectic grounds, for the presence of the *Wau* in the Arabic form of the name *Zahweileh*, which has the same meaning as the Hebrew *Zoheleth*, and the same tri-literal root.

Professor Sayce says that the sheep-gate is mentioned in John v, 2. This is true of the English version, but Professor Sayce is no doubt aware that all ancient authorities regarded the *Probatike* as being not a gate at all, but a pool.

As regards the chronicler's account of the Ophel wall, Professor Sayce considers that his wording is "somewhat loose" (p. 221). The chronicler says that Manasseh built a wall "without the City of David" (לעיר חיצונה), on the west side of Gihon, in the valley. Professor Sayce appears to think that he meant to say "round the City of David." This may be necessary to the new theory, but the old theory fits exactly with the distinct meaning of the Hebrew words, and the chronicler had at least this advantage over the modern student, that the walls were then standing before his eyes.

The Hebrew particle אל is rendered "on" by Professor Sayce in two passages (2 Chron. xxxii, 30; xxxiii, 14); why, then, is it rendered "from" in another passage (Josh. xv, 9), where the Authorised Version reads "unto?" I think that if Professor Sayce will consider the whole question of the boundary of Judah (Josh. xv and xviii) he will agree in running the line further south than he at present proposes to do, and that the generally accepted reading of the Hebrew will be found satisfactory. It certainly agrees with established views as to Jerusalem topography, though not perhaps with the new theory.

Finally, I would ask if Solomon cleared away a city of Jebusites in order to build his Temple, as Professor Sayce supposes, is it not remarkable that no hint of this arbitrary act is found in the Old Testament?

We read of David and Solomon as rebuilding the Jebusite town, and as buying an open threshing-floor as the site of the Altar; we hear nothing of destruction or of the two towns, upper and lower, divided by a district only afterwards occupied and called Ophel. On Ophel Solomon built his palace, and this, as we learn distinctly, was outside the City of David (1 Kings ix, 24).

With Professor Sayce's topography on the east I for one must in the main concur. His plan will be found to coincide with that which I published in 1879 ("Handbook to the Bible"), in almost all the details on this side, and some of those details I think I may claim to have been the first theorist to assign to the positions which Professor Sayce adopts. As regards the topography on the west side, I think that after considering the explanations now offered on the points which really induced Professor Sayce to adopt his present views, I may rely on him to reconsider his position. The impartiality of Professor Sayce and his constant effort to keep his mind open on doubtful questions are very well known. I hope he will weigh the suggestions I have ventured to offer concerning area and population, concerning the history of the pools and of the aqueducts, concerning the information which we possess as to the levels on the Ophel

spur, and concerning the two royal cemeteries mentioned in the Bible. He may, perhaps, even do me the honour of reading the account which I have endeavoured to give in the "Handbook to the Bible" concerning our present knowledge of ancient Jerusalem, and I know that if, on reading these remarks, he should become convinced that the generally accepted theories are really the simplest (and they have been very carefully thought out by many experienced and able writers), we can rely upon his expressing his adhesion to the views of the majority, including such names as Robinson, Fergusson, Williams, Lewin, and Warren.[1]

C. R. Conder, *Captain, R.E.*

DISC STONES.

I must thank Dr. Selah Merrill for correcting our measurement of the Mensef Abu Zeid by 10 inches. I have no doubt he is right. The stone in question weighs, probably, some twenty tons, and for this reason I do not agree with Mr. Merrill in regarding it as a millstone.

There are two kinds of millstones commonly used in Syria. Those for grinding corn, which are large and made of basalt, and those belonging to olive-presses, which are small and made of limestone. A limestone block would not, I think, be hard enough to grind corn, and for this reason the basalt stones imported from the Hauran are much prized. There is no doubt a danger of mistaking a modern utensil for an ancient emblem. Even Dr. Schliemann did not escape this danger. On the other hand, the surveyors had seen very many millstones which they could compare with the Mensef, but never, I think, did they find a horse or donkey who could have turned this great disc stone in a mill. I have lately found an instance of disc stones which are clearly solar emblems, namely, the twin disc stones of Killiney, co. Dublin. The 'Amrit disc stone is just about the size of the Mensef, and the disc stone with a central obelisk is a well-known emblem to Oriental archæologists. Such antiquities are not, however, I believe, found in America.

C. R. C.

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[1] Sir C. Wilson's name will no doubt in time be added to that of other authorities when he has time to publish his views. At present, however, we can only appeal to his Survey and Memoir, as he has not expressed an opinion on the questions now under consideration.

PILLAR OR GARRISON?

Thanking H. B. S. W. for his support on this question, and, without wishing to insist on an interpretation which may be doubtful, I would note that his argument as to the verse "the garrison of the Philistines went out" (יצא מצב) is apparently inconclusive, because this verb is used of inanimate objects, in a manner which seems to support my view. Thus we read in Joshua xv, 3, 9, &c., יצא הגבול "and the border went out," in the sense of extended. My idea is, that the Philistine border was marked by a cippus, or menhir, which Jonathan smote, and that, having obtained possession of Geba, he forced the Philistines to retire across the valley, and to establish themselves at Michmash. This border—no doubt protected by an outpost called "the men of the garrison" (xiv, 12)—then "went out," or "extended only as far as the "passage of Michmash" (xiii, 23), and the desecrated menhir may have been here erected anew. The passage has always, I believe, been considered difficult, and "garrison" is by no means the general reading. "Standing camp" (in the margin), "governor," "boundary" (Speaker's Commentary), and other renderings have been suggested; but as to the general reading of the words מצב and נצב (the Arabic *Nusb*) there is no doubt whatever; and H. B. S. W. has shown clearly how hasty is Mr. Birch's assertion, "It is an entire mistake to say it is rendered pillar in other passages of the Old Testament." My view was derived from a study of the Speaker's Commentary, which renders מצב by "boundary."

C. R. C.

THE KHURBETS OF CARMEL.

The accurate delineation of Mount Carmel in the Society's map, will in all probability have corrected the idea hitherto widely but erroneously entertained in regard to this historic locality. We are now able to realise that Carmel is not an isolated mountain, but a highland region, about thirty-five miles in circumference, with various ranges cut up by narrow gorges, or broader valleys, and diversified by lofty spurs, rounded summits, and level or undulating plateaux. The explorer is thus furnished with a district through which he may wander with the pleasing consciousness that he will not speedily exhaust its picturesque or archæological points of interest, but may at any moment unexpectedly stumble upon the sites of ruined towns, or feast his eyes upon new beauties

of scenery. Indeed, it is impossible once more to supply, in imagination, this region with the population it must have contained in former ages, without realising that it possessed all those attributes which rendered its loveliness proverbial. The massive ruins which are so abundantly strewn over its loftiest summits, the traces of terraces which cover every hill-side, the gigantic roots of old forest trees, long since departed, which crop through the soil, the remains of mills, reservoirs, and cisterns, which bear testimony to its wealth of water, all furnish evidence that the highlands of Carmel once supported a large civilised population, and that it has been subjected to a very high degree of cultivation. With the conquest of Palestine by the Arabs, about the middle of the seventh century, the beauty of Carmel doubtless began to fade; still it is probable that it retained some of its leading characteristics until the end of the thirteenth century, when, on the expulsion of the Crusaders, it lapsed once more under the influence of Islam. We have no clear historic record of the conditions of the mountain from the year 1291, when the Carmelite monks were driven from the monastery, till the middle of the seventeenth century, when they recovered their position; but it is probable that it was almost completely uninhabited for about 300 years. It was in the early part of the seventeenth century that the Druse Emir Fakr-ed-dîn, having conquered Beyrout, and the coast towns to the south of it, extended his sway as far as Carmel, and under his rule were established the eight Druse villages, of which two, Esfia and Dahlieh, alone exist. The other six, the remains of which I have visited, were all built on the sites, and with the stones of ancient towns. They are—

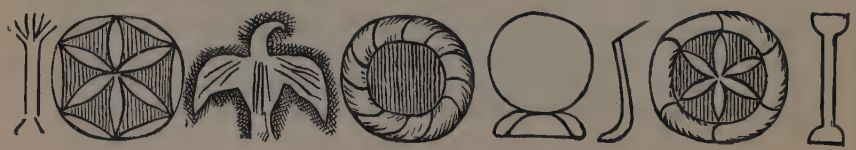
Khurbet Beistan,
„ Umm esh Shukf,
„ Shellâleh,
„ Duweimîn,
„ Duweibeh,
„ 'Aleiya-eddîn.

Besides the population contained in these villages, there were a few Druse families scattered over the mountain in hamlets. As the sites of these villages were the most eligible, it is probable that when Fakr-ed-dîn appropriated the mountain there were no inhabitants in it, or they would have been occupied—the more especially as, except the two which remain, the mountain is again abandoned; for the Moslem villages of Belad esh Sheikh, Tireh, Umm es Zeinat, Tsjim and 'Ain Haud, which own lands in the mountain, are all situated at its foot, with the exception of Umm es Zeinat, which is on a lower range of hills to the south-east, below the Makkraka. There are no Moslems actually on Carmel proper. Its entire population consists of about 800 Druses, divided between the two villages of Dahlieh and Esfia and fifty Christians of the Melehite sect, who live at the latter place, and the monks in the monastery. The Druses of Dahlieh are of a somewhat superior type to those of Esfia, having come direct from the neighbourhood of Aleppo, the original cradle of the Druse nation.

Dahlieh is the most southern Druse village in Palestine. The inhabitants of Esfia, and the remaining Druse villages now deserted, were all from the Lebanon. The tyranny of Ibrahim Pacha during the Egyptian occupation of Palestine, and the lawless and predatory habits of the inhabitants of Tireh and Tsjim especially, rendered the mountain untenable, to a great extent, by the Druses of the six villages I have enumerated, and one by one they were abandoned, their inhabitants for the most part taking refuge in the Jebel Druse to the east of the Hauran. There remain, however, within sight of Esfia, fourteen Druse villages on the southern slopes of the northern hills of Galilee, and their Sheikhs pay annual visits to their brethren on Carmel. It is manifest that the Crusaders had military posts on the mountain, and built their forts with the materials which a bygone population had left behind them, leaving their own traces in the carvings which bear evidence of the Crusading period. The fragments of columns, carved capitals, and architectural remains still to be found, prove that Roman civilisation once had a foothold here, while the remarkable Jewish vestiges till lately existing at Khurbet Semmaka (see "Memoirs," Vol. I, p. 318), and the quantities of tombs with which the hill-sides near some of the Khurbets are honeycombed, give evidence of the large Jewish population by which it was inhabited from a remote antiquity.

I spent two months last summer at Esfia, which according to the Survey has an altitude of 1,742 feet above the sea, and found the difference between its temperature and that of Haifa quite sufficient to justify its selection as a summer resort, the thermometer between the middle of July and the middle of September rarely rising above 80° in the house in the middle of the day, and usually falling to 70° at night in the tents. It was during this period that I made the excursions in the neighbourhood, the notes of which are contained in the following pages. I have thought it best to make sketches of all the devices and carvings that I found, as they may possess a value of which I cannot judge so well as those more learned in matters of antiquarian and archæological research. The names of the Khurbets which are not marked in the map I have given in Arabic.

Khurbet Dubil.—These remains cover a larger area than any others which I have visited, and would seem to indicate a place of importance. They crown an eminence in the neighbourhood of Dahlieh, and are marked in the Map (Sheet 5, J *i*). Many of the stones, of which the walls still standing, to a height of 8 or 10 feet, are composed, measure 4 feet by 2½ feet by 18 inches; while some, which had evidently been lintels or jambs for doors, measured from 7 to 10 feet in length, by 4 feet in breadth, and 2 feet in depth. On one of these, measuring 9 feet in length, was the following device :—

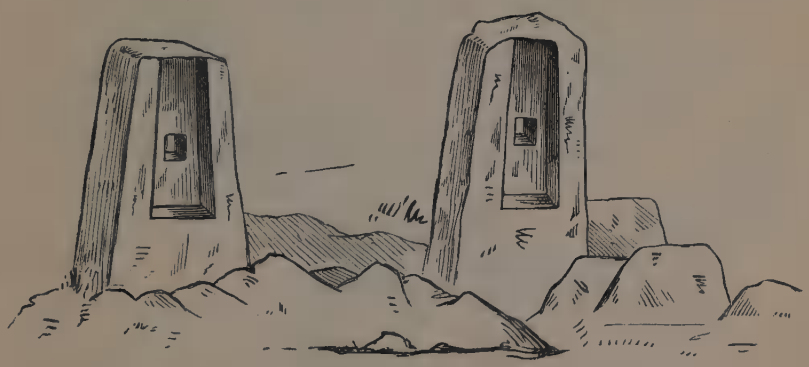


From a smaller one I copied another piece of ornamentation :—



I also found, almost concealed by thick brushwood, what at first sight appeared to have been a chamber hewn out of the living rock. It had been roofed with four stone slabs, two of which had fallen in, measuring 12 feet by 3 feet by 18 inches in depth. The chamber was thus 12 feet square. The sides hewn from the rock were about 12 feet high, measuring from the rubbish which had accumulated, and which was covered by a dense undergrowth ; but it was probably originally much deeper.

I am now inclined to think that this excavation was originally a cistern, of which one side had been formed by a wall, the stones of which have since been carried away. I also found two upright stones, about 4 feet apart, and $3\frac{1}{2}$ feet high, and on the face of each had been cut two slots, 6 inches wide at the top, 9 inches at the bottom, 2 inches deep, and 2 feet long ; in the centre of each was a hole 3 inches square, perforating the entire stone, of which an illustration is given below. These were probably the bases



upon which were fixed upright posts, which supported an olive-crushing apparatus. Also two large nether millstones, 6 feet in diameter, perforated in the centre by a hole 8 inches square. I found another of these on which half of the upper stone was still lying, which was $4\frac{1}{2}$ feet in diameter, and 18 inches thick. Scattered among these ruins were several rollers similar to those discovered by the Survey at Khurbet Semaka, and which are thus described : "They are of limestone, about 3 feet in diameter and 7 feet long. There are on the sides four vertical lines of sunk grooves, four or five grooves in each line. It was supposed that these columns, which

weigh about two tons (taking 2·7 as the specific gravity of the stone) were used for crushing olives." ("Memoirs," Vol. I, page 318.)

There were also many cisterns and tombs. I visited a number of the latter, of which the following were the most worthy of notice :—

One with two chambers 7 feet square, the inner chamber containing two loculi ;

One, 15 feet square, with four kokim on each side, and two loculi with arcosolia. At the entrance to this cave was a circular stone, like a millstone, which moved in a groove, and which, with a little clearing away of the rubbish, might have been rolled across the square entrance, which is still half closed ;

A large cave, 20 feet square and 7 feet high, containing four kokim, two loculi, partially destroyed, and a small pit, about 6 feet deep, and 3 feet square ;

A tomb, with nine kokim, three on a side ;

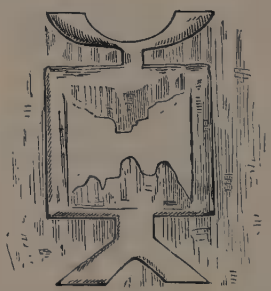
A tomb, with six kokim and a loculus ;

A tomb, with seven kokim and a loculus ;

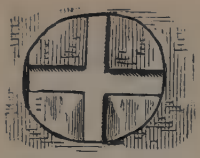
A tomb, the handsomest of all, with five loculi, the sides high like those of sarcophagi ;

besides many others of less interest, and in a less perfect condition.

Khurbet Duweimin (Sheet V, J *h*).—These ruins are of great extent, and are so much overgrown that they are difficult of examination. I found, however, one sarcophagus and two sarcophagi lids ; a fragment of a column erect, 3 feet high and 2 feet in diameter ; a fragment of a prostrate column of the same size ; two lintels in position across doorways, 7 feet by $2\frac{1}{2}$ feet by 18 inches ; a stone slab, 6 feet by $2\frac{1}{2}$ feet by 18 inches, which had been elaborately carved, but which was so weatherbeaten that it was impossible to make out the device which had been engraved on what appeared to have been a tablet in the centre, but of which the following is a drawing :—



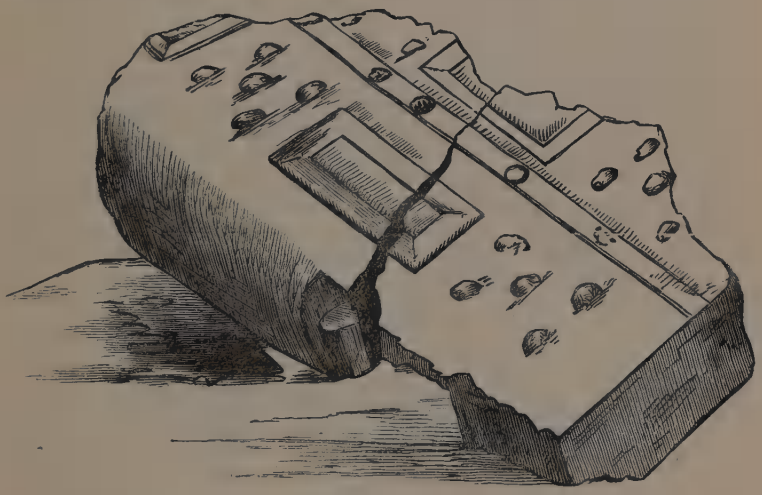
Two slabs, 7 feet long, each containing a carved circle 2 feet in diameter with a cross in the centre.



I found several cisterns, but only two tombs worthy of notice. One, entered by a flight of three steps, which contained four loculi, with arcosolia; and another, with a fragment of a slab, on which was a simple carving, which probably formed part of the door, containing three loculi, with arcosolia.



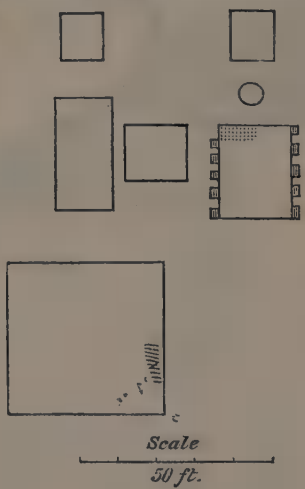
I have also visited several cave-tombs in the vicinity of Esfia, one containing eight kokim, and another with four. Near the former is also the slab which formed the doorway, carved thus :—



Khurbet 'Aleiya-eddîn عَلِيَّة الدِّين —This ruin is situated on a rising ground a few hundred yards to the left of the path from Esfia to the Mukkraka, at a distance of two miles and a half from the former place. It covers an area of about four hundred paces by three hundred, and consists of the usual remains of walls built of massive stones from 4 to 5 feet long by 2 or 3 feet wide, and 18 inches thick. Some of these walls are standing to a height of 12 or 14 feet, and in one of them is a window $3\frac{1}{2}$ feet by $2\frac{1}{2}$ feet, with sockets hollowed into the stone on both sides. I also found what appeared to have been the fragment of a column $3\frac{1}{2}$ feet in diameter, and 3 feet in length, but it may have been a round mass of

stone used for some other purpose, as there were no other similar fragments near it. There were also two circular stones 5 feet in diameter. In the centre of each was a hole 18 inches deep, which, however, did not penetrate the stones. As these were partially buried, I could not ascertain their thickness. The holes were 18 inches square, and 6 inches from the surface had been hollowed to a depth of 2 inches round two sides, making a sort of recess round these two sides a foot high and 2 inches deep. These stones were 30 or 40 yards apart; it is possible they may have formed part of an olive-press. About a hundred yards from this I found a millstone, 4½ feet in diameter, and 18 inches thick, with a hole perforating it 8 inches square.

The most remarkable feature of these ruins was its cisterns and reservoirs. From the number and extent of these the population must have been entirely dependent upon them for its water supply. Besides nine large rock-hewn tanks, I counted twelve of the usual bell shape, with the small circular orifice. Over one cistern, 8 feet square, which was hewn out of the living rock, and was 10 feet deep to the *débris* with which it was probably now half filled, was an arch of seven stones, which averaged in size 3 feet 6 inches by 2 feet 6 inches by 1 foot 6 inches. This was evidently all that remained of an arched roof, and was the more interesting because it accounted for the niches in the side of a tank which I shortly after discovered. This cistern, which, like all the others, had been hewn from the solid rock, was 24 feet long by 20 feet wide, and on each side, on a level with the surface, were 5 niches, 3 feet 6 inches long, 2 feet 6 inches across, and 15 inches deep. It is probable that it had been originally arched over, and that these were the sockets from which the



PLAN OF ROCK-HEWN CISTERNS AT ALEIYA-EDDIN.

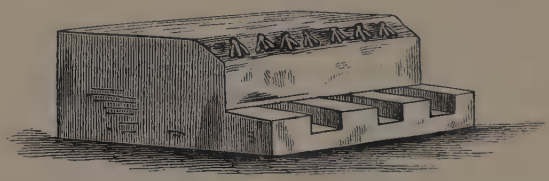
arches sprung. This cistern, as well as the largest, had a flight of steps which led to the bottom, now filled with *débris* and overgrown with shrubbery, so that the actual depth can only be conjectured; of all the reservoirs in the system of which this formed one, and of which a sketch plan is given below, the largest was 40 feet square, roughly estimated, and its present depth is about 15 feet. The bottoms of all were thickly overgrown. The ledges by which they were separated were of solid rock. Three others of a similar character were scattered elsewhere over the rocky hill-side. I also found one tomb, 14 feet square, containing two kokim, and the entrances to several others which were too much choked to be accessible.

Esfia itself was evidently a Crusading post, for there are many stones built with the native houses on which are Crusading devices, and on one of them the machicolated stones of an old tower have been re-arranged with narrow arched windows divided by a small stone column. The village is situated on a summit about 200 feet above the copious spring, and the hills round it form an amphitheatre. This is the head of the Wâdy Shomariyeh. On the summit of one of these hills, about half-a-mile from the village, are the ruined walls of the Khurbet esh Shelkiyeh, marked on the map, where I found a couple of cisterns, but no remains of any interest, and on another summit, half-a-mile distant, on the range forming the northern side of the amphitheatre, are the more extensive and apparently more ancient ruins of Khurbet Shemaliyeh, الشماليه, where there were also some cisterns, a very ancient olive-press, some drafted stones, with sockets &c., and a tomb, the entrance to which was choked. There were, therefore, in old times, three small towns on the hills surrounding the spring, and all equi-distant from it. The hill-sides all round bear marks of terraces, and the whole of the amphitheatre must have been richly cultivated and a scene of great beauty, as, indeed, it is at present, for though the terraces are for the most part dilapidated, the valley round the spring is irrigated, and green with gardens and orchards of fruit trees. Among the spots of interest near Esfia is a singular cleft in the rocks, about a mile distant from it in a westerly direction, called the Crow's Nest, عف عب. The sides of the limestone precipice are about 150 feet high, split by cavernous fissures, and the gloomy area below is covered by a dense undergrowth of jungle, into which the sun never penetrates. Another curious spot is "The Forty Trees" (Shejeret Arbam), a grove of magnificent old oak-trees near the Khurbet el Khureibeh (K *h*). There is a rude sort of altar cut in the rocks here, and the place has a certain character of sanctity connected with it, as tradition has it that forty Skeikhs were once murdered here, and that death would be the penalty of any attempt to tamper with these trees, as it is aleady said to have been in the cases of a man and his father, who began to cut one down. At Khurbet Khureibeh I found nothing of any interest beyond a small arched chamber, which may have been comparatively modern, though constructed with the old stones.

Khurbet Lubieh اللوبة.—This ruin is situated about a mile and a quarter to the east of El Mughrushah (marked on the map K *i*), on a lofty spur projecting into the Wâdy el 'Ain. It is a small ruin, and so overgrown as to be difficult of examination ; but the stones are large, and the place bears all the marks of great antiquity, and seems not to have been occupied in recent times. It would seem to have been a fortress, both on account of its position and from the fact that the outside walls, still standing in places to a height of 3 or 4 feet, are about 6 feet thick. It is approached on one side by terraces, somewhat similar to those at Rushmia. I observed here that some of the stones were drafted ; many had holes and sockets cut into them ; there was a fragment of a sarcophagus and a circular stone a foot high and 18 inches in diameter, with a hole in the centre 3 inches square by 4 inches deep, and another stone 3 feet 6 inches high, which had apparently been pointed standing alone in the centre of what seemed to have been a chamber ; and there were some choked-up tombs and cisterns, but I only found two stones on which was any carving. Upon one was the following device 6 inches square.



On another stone, 3 feet long, was a carved moulding which may have formed part of a cornice, such as those existing at Kades and elsewhere.

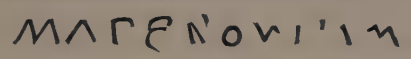


The high rocky summit near Lubeh is called the Jebel Sheikh, from the fact that the natives consider it the highest part of Carmel. On the right hand of the path leading from it to Shellaleh I observed the fragment of a column about 6 feet long.

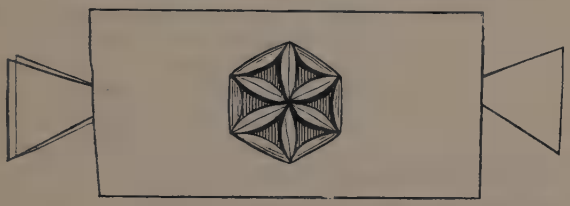
Khurbet Shellaleh has been exhaustively described in the "Memoirs," also Sheet 5, J *h*. Its position on the abrupt cliff of a wild gorge is in the highest degree romantic.

Khurbet er Kakhtyeh (Sheet 5, J *h*).—This ruin bears all the marks of having been undisturbed from the most ancient times. There is a large circular cistern here, 82 paces in circumference, the upper coping of stones still remaining in parts. It was apparently an open cistern, and is the only one of the kind I have seen on the mountain. It was about 20 feet deep to the undergrowth on the *débris* at the bottom. I also observed three fragments of columns, one of a roller, with grooves, and a large olive mill, hewn out of the living rock, with vat for receiving the oil attached, besides the circular bases of two other mills, each 7 feet in diameter. In the rock cliff near this olive mill was a most interesting tomb, with an inscription much defaced, but of which the traces of the Greek characters

still remained on the rock over the doorway and under the arch; below it was a hexagonal device in a tablet 2 feet long by 1 foot broad, and on each side of the entrance were two circular devices. The traces of the red pigment which had been used in the inscription were still visible. I had, unfortunately, no materials with me for taking a squeeze, and could only make a rough and very imperfect copy—



Underneath which was the tablet—



on the right side of the entrance—



on the left



The construction of the tomb inside differed from any which I have hitherto seen. The chamber was 8 feet by 6 feet 6 inches. On the right-hand side were three kokim; on the side opposite the entrance was one koka in the right corner; the rest of the side was made up of a loculus under an arcosolium, but behind it, so that you had to step over the loculus to get into it, was an oblong recess with a flat roof 7 feet 6 inches long, by 2 feet 6 inches broad, the entrance to which was 3 feet high by 2 feet 6 inches broad, but the rock had been grooved so as to admit of a door, and on the upper right-hand corner was a socket into which the pivot for a stone slab had evidently been fitted. On the left side was a single loculus the whole length of the chamber under an arcosolium. The whole was in good preservation, and the tombs had evidently been the possession of a family of position. I annex a plan.



The Arab who accompanied me to Khurbet Rakhtyeh, who was a peasant I picked up at Shellaleh, told me that according to native tradition both this ruin and Shellaleh had in former times been inhabited by Greek priests. I observe that in the "Memoirs" it is stated that an early Byzantine monastery possibly stood at the latter place. The inscription over the tomb would in all likelihood date from the same period.

The olive mill I found here is the best specimen I have seen, though riding over the hills one day I came upon another almost as perfect in a secluded valley far away from any Khurbet. Indeed I have counted more than a dozen of these at the different Khurbets I have visited, and they evidence the extent to which olive culture was formerly carried on in Carmel. The method of grinding olives at the present appears to be identical with that of the earliest period, indeed in many cases the old stones are still used, though it is possible, as has been suggested in the "Memoirs," that the huge stone rollers were used for expressing the oil afterwards in default of the modern upright wooden screw apparatus.

Khurbet el Kerek (Sheet 5, K *i*).—These ruins, which are beautifully situated on a southern spur of the range, are apparently very old. All I found here were two rollers, an olive-press 8 feet in diameter, with a raised rim 9 inches high—the first I have seen—and some large circular stones with the square hole in the centre, and the recess round two sides such as those already described. There were also some drafted stones with sockets, but I found no carving. A great many stones had not long since been removed for building purposes elsewhere. There was also a rock-hewn cistern, 12 feet square, with niches similar to the one at Ali-ed-dîn. On the road to Dahlieh, not far from here, my Arab pointed out to me an almost circular natural fissure in the rock, evidently not a well or cistern, though there was some masonry round the mouth, which by throwing lighted paper down I judged to be about 60 feet in depth, from which, according to native tradition, fire had at one time issued accompanied by loud reports like thunder-claps.

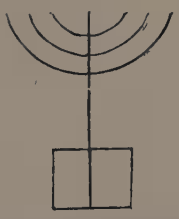
Khurbet Duweibeh (K *i*).—The ruins of the walls here were those of the last Druse inhabitants who had used the ancient stones. I observed a millstone built into the wall. Some of the old door jambs, with sockets, were still *in situ*. A large oblong vat like a sarcophagus, hewn out of the living rock, which I take to have been a wine-press, from the arrangements made for the juice to escape, and three rollers lying together, complete the objects of interest. Near the road from here to Esfia is another wine-press, 9 feet square and 8 feet deep, hewn out of the living rock.

Tempted by the account of a stone-mason of extensive caverns existing at a place called Naghnaghiyeh, النغنغيّة, I found, on my arrival, that it was none other than the hill marked Tell el Aghbariyeh (Sheet 8, J *l*). It consists of two limestone hills, which are honeycombed with natural caverns. They were only interesting as having at some former period served as dwelling-places. One, 18 feet square and 7 feet high, was plastered with cement, as was also a solid column in the middle, 3 feet 6 inches square. There was a sort of cornice running round the floor, and

an aperture at the back leading through to the hill above, apparently for the escape of smoke. There were several other caves bearing traces of cement and occupancy.

Khurbet Medineh.—This ruin is on the slope of the smaller of the above hills. Here were a pair of stones 3 feet high and 2 feet thick, each with a hole 5 inches square perforating the whole thickness, with a groove on each 4 inches broad and 3 inches deep, running the whole length of the stone. Also one in which was a hole 6 inches square and 6 inches deep, and on the other side of the stone was a groove 1 foot 6 inches long, 4 inches wide, and 8 inches deep, the uses of which I am unable to conjecture. There were also cisterns and tombs with choked entrances. Near the hill crowned by the Khurbet Beit Ras, is another hill, on the top of which is also a ruin, called the Khurbet Abu Lehieh, at the head of the wâdy of that name, but I had not time to visit either of them. There were also some singular caves above the 'Ain Abu Zereik, marked on the map (Sheet 8, L *j*), which I propose at some future time to examine. About half an acre of ground is here covered with holes like the bell-shaped mouths of cisterns, but they are only a few yards apart, and are between thirty and forty in number. They appear designed to let light into an immense cavern beneath, but I had no time to explore it.

Khurbet Semmaka and *Umm esh Shukf* (Sheet 5, J *i*) have both been so fully described in the "Memoirs" that only a few words are necessary. In regard to the former, it is most fortunate that it has been the subject of a minute examination by the Survey ten years ago, for the door of the synagogue, which made it the most interesting ruin on Carmel, has now been removed, together with most of its stones, by the inhabitants of Umm es Zeinat. There is only a fragment of the door jamb, about 3 feet high, remaining. The walls, columns, and most of the foundations are all gone. On the steep slope of the Wâdy Nahel to the west, I found two specimens of tombs in a very perfect state of preservation. On each side of the entrance to one was this simple device, representing a seven-branched



candlestick. A recess, covered by a single arch, contained three loculi, two parallel ones, and one across the end. On the right side, under an arcosolium, were two more loculi. The other was larger and handsomer, and the angles of the roof and the edges of the loculi were almost as sharp as if it had just been finished. It contained two recesses, each with three loculi with high sides, under arcosolia, and on the third side a seventh

loculus with arcosolium. The Wâdy Nahel is the finest and most romantic gorge in Carmel, and the scenery here equals anything I have seen in Western Palestine.

Umm esh Shukf was formerly a Druse village, but the great quantities of pieces of tesselated pavement and glass fragments strewn about give evidence of occupation under conditions of Roman civilisation. Besides the tombs described in the "Memoirs" was one higher up the valley, containing three loculi with arcosolia, and on the doorway under the arch this device—



Khurbet Beistan.—Formerly a Druse village, a little lower down the wâdy. There are no remains here of any interest.

Khurbet Mansurah.—(Sheet 8, K *j*).—This is a small ruin on the plateau about 500 feet below the Mukkraka. Nearly all the stones have been taken to build the Carmelite church on that site. The workmen engaged on the building told me that they found several with carving and devices, but that they had chipped them off in their stone-cutting operations, and they are now built into the walls.

Khurbet Umm Ahmed ام احمد.—This is somewhat an inaccessible ruin situated on an abrupt shoulder of a spur of the mountain between the Wâdy el Jennadiyeh and the Tell el War (Sheet 5, K *i*), about 800 feet above the Kishon. It has evidently never been disturbed by dwellers since ancient times. There are a few large stones with socket-holes; two tombs with handsome entrances, but too much choked for examination; some cisterns, and natural caves. One of these I entered by an artificial archway 5 feet wide; from the circular cave to which it gave access, another archway opened over a deep slope of *débris*, which probably concealed steps into another natural cavern about 60 feet long, 20 feet wide, and 15 feet high. A circular hole similar to those used for cisterns was cut in the rock above, probably to let in light. I think these caves may possibly have been used for places of refuge. I observed on the soft bottom the recent tracks of a leopard. There is a difficult path skirting the side of the range, about midway between the top and the plain below, and which, running in a northerly direction, leads one in a mile and a half from this ruin under abutting cliffs to *Khurbet el Kalaat* القلعة, the ruin of the fortress. This is one of the most interesting spots in Carmel. The mountain here rises almost precipitously from the Kishon to a height of about 800 feet, when it forms a ledge on a projection from which is an abrupt castellated-looking mass of rock. On the side facing the plain the rock rises precipitously from the slope to a height of about 50 feet; a little below it is a large natural cave; on the opposite side

of that facing the mountain an artificial defence has been raised by placing huge natural boulders one above another in three tiers. No attempt has been made to shape these; they have evidently been placed in the position they occupy by a very ancient race. Each stone must weigh from two to three tons, and they have been so arranged as to enclose half the circumference of what was a stronghold of the most remote antiquity. The area thus enclosed behind this barricade of rocks was 150 yards in circumference, and was a position of commanding strength. At the edge of the slope, and attached to the fort, was a rock-hewn cistern about 20 feet by 30 feet, but it would scarcely seem likely to have been the handiwork of those who had piled these huge natural stones on each other. I regret that in the fading light I had not time to make a sketch. In close contiguity were the massive stones that had formed the quarters probably of the garrison, for they were few in number; but about 300 yards distant were the more extensive ruins of an ancient village. I observed no drafted stones among those strewn around, though in one place the walls still remained two or three stones high, and I saw one stone which had been carefully shaped and hollowed out, making a bowl 18 inches in diameter and 9 inches deep.

Khurbet Zahluk lies about half-way between this place and Leijet Zahluk (marked on the map). There are some tombs and cisterns here, but nothing of interest.

This completes the list of Khurbets which I have visited, but there are still a few others on the mountain which I shall endeavour at some future time to examine. In conclusion, I would wish to say a few words in regard to a subject which has been a good deal discussed—I mean the supposed site of the Altar of Elijah. There can be no question that it was *not* on the position popularly assigned to it, known as the Mukkraka, or "place of burning," where the Carmelites are now erecting their church, for this spot is in full view of the Mediterranean from Tantura to Cesarea; and it would have been quite unnecessary for Elijah to tell his servant to "go up and look towards the sea," for there was no higher point to go up to, and he could see the sea himself. The late Dean Stanley has therefore put it down on the plateau on which the Khurbet Mansurah stands, and near which is the well of the same name; but I think there is a more likely position than this to which my attention was called by a pile of stones which, curiously enough, has all the appearance of an altar to this day. A mile before reaching the "place of burning," concealed almost in a thicket of underwood, about 50 yards from the path from Esfia on the left-hand side, stands a singular pile of flat stones, each averaging 18 inches square, and 8 or 9 inches thick, which, placed on one another without cement, make a rude table about 12 feet long and 4 feet high. The breadth varies, as they have been broken away; but there is a large artificial slab about 6 feet square lying at the base. Though I do not for a moment mean to imply that this was the original altar, the unusal shape and position of this pile suggests that it may have been the result of some sacred tradition with the Biblical event, for the locality would exactly

fulfil all the conditions of the incident. From it the ground swells back and upwards in every direction, so that a vast host of people might have been assembled around, and witnessed whatever was transpiring here ; a ten minutes' walk would have taken Elijah's servant to the top of the hill on which stands the Khurbet Duweibeh, from which the sea is plainly visible. Water in any quantity, even at that time of drought, could have been supplied from the tanks at Khurbet Ali-eddîn, also only ten minutes' distant, a plan of which I have already given ; and we are told that twelve barrels of water were used. Within a hundred yards of this pile the present path passes down the Wâdy el Jennadyeh, and at the bottom of it is Tell el Kussis ("The Hill of the Priests"), the traditional site of the massacre. Again, this must have been in the centre of the most populous part of the mountain. Indeed, it is difficult to realise now the extent of the population which must in those days have inhabited the south-eastern angle of Carmel. The best idea of it can be formed from the fact that within a radius of two miles and a half from this pile of stones there are, including Esfia, which is doubtless an ancient site, no fewer than twelve Khurbets or ruins of ancient towns and villages on the various hill-tops and mountain spurs which surround it. Here, then, are all the conditions required to satisfy the Biblical narrative, and to support the hypothesis that the events recorded—which certainly could not have taken place at the site generally assigned to them without involving contradiction—occurred rather on the plateau a mile distant, which is surrounded by so many of the villages of the mountain to which "all Israel" was summoned, rather than to the more limited space half-way down the mountain on the other side, where water was scarce, and the opportunity of witnessing the scene that was transpiring was less favourable.

LAWRENCE OLIPHANT.

RECENT BIBLICAL RESEARCH IN PALESTINE, SYRIA, AND ASIA MINOR.

(*A paper read at the Reading Church Congress, October 3rd*, 1883.)

By Colonel Sir C. W. WILSON.

THE most important features of recent Biblical research in Palestine are the discovery of the Siloam Inscription, and the survey of a portion of the country east of Jordan, by Captain Conder and Lieutenant Mantell, R.E., for the Palestine Exploration Fund. The Siloam Inscription, found accidentally in the rock-hewn channel which conducts the water of the Fountain of the Virgin to the Pool of Siloam, records the meeting of the workmen, and the completion of the channel. Its value for philology

and epigraphy is very great, for it not only gives us a form of the Phœnician alphabet of a very early date, and closely resembling that of the Moabite Stone, but brings before us the Hebrew language as it was spoken in the age of the Kings. Professor Sayce, who remarks on the Biblical character of the language and the occurrence of Old Testament idioms in the inscription, assigns it to some date between the eighth and ninth centuries B.C., and Professor Neubauer has suggested that the channel was cut in the reign of Ahaz.

The expedition of Captain Conder and Lieutenant Mantell was brought to a premature end by the refusal of the Porte to grant a firman, but not before 500 square miles of country had been surveyed, and plans, drawings, and photographs procured of the principal places of interest. The district examined included Jebel Neba, Mount Nebo, so that we have now detailed plans of the spot whence Moses took his final view of the Promised Land; the plains of Moab on which the Israelites encamped before crossing Jordan, and where, in all probability, the cities of the plain were situated; and the heights from which Balaam looked down on the people he was called upon to curse. It is extremely interesting to find the name Zophim, under the form Tal'at es Sufa, "ascent of Zuph," still lingering on the slopes of Mount Nebo; and no less so to find groups of rude stone monuments near the sites upon which Baalam, probably, erected his three altars. These cromlechs have been noticed by Irby and Mangles, De Saulcy, Duc de Luynes, Dr. Tristram, and other travellers, but until the recent survey no one was aware of the great number of them scattered over the country east of Jordan, or of the remarkable manner in which they are grouped round certain centres. The survey confirms the identification of Ashdoth Pisgah with the "Springs of Moses," and throws much light on many obscure Biblical sites in the vicinity of the Dead Sea; but for these points, and also for an accurate description of the view from the summit of Nebo, I must refer you to the interesting work recently published by Captain Conder, under the title of "Heth and Moab." The results of the survey are so valuable that its abrupt termination is a matter for unfeigned regret.

Before crossing the Jordan, Captain Conder made an excursion from Beirût in search of the great Hittite city of Kadesh, on the Orontes, and believes that he discovered it in Tell Neby Mendeh, on the south slope of which there are ruins still called Kades. Until the last few years the Hittites were only known to us as one of the tribes inhabiting Palestine at the time of the conquest, but recent discovery has shown them to have been a powerful kingdom, or, perhaps more rightly, a confederation of small states, able to hold their own against the great monarchies of Egypt and Assyria, and exercising a widespread religious influence, if not dominion, over the people of Asia Minor. In the time of Abraham the power of the Hittites appears to have extended to the southern limits of Palestine; it is from Ephron the Hittite that he buys the cave of Machpelah, and the bargain is confirmed "in the audience of the children of Heth;" so too it is to the same children of Heth that

he "bows himself down," an obsequiousness which indicates clearly that they were the ruling race. At the time of the conquest there is a marked change; during the interval the Hittite power in Palestine had been weakened by the campaigns of Thothmes III, Rameses I, Sethi I, and Rameses II; and the Hittites re-appear as a people inhabiting Syria and Northern Palestine, or the country from "Lebanon even unto the great river, the river Euphrates." This decline of Hittite power in the south was followed, apparently, by the rise of the Amorites, a kindred Hamitic race, and by the formation of numerous petty kingdoms, which were never able to form a coalition sufficiently strong to resist the onward march of the compact Israelite force under the leadership of Joshua. The Amorites seem to have spread themselves over a large portion of Palestine; the Kings of Jerusalem, Hebron, Jarmuth, Lachish, and Eglon were Amorite; Sihon and Og, after driving out the Ammonites and other peoples, established Amorite kingdoms east of Jordan, and even Kadesh on the Orontes is said to have been an Amorite city, under the jurisdiction of the Hittites, during the reign of Sethi I.

While the conquest of Palestine was being effected by Joshua, the Hittites appear only as the allies of Jabin, King of Hazor, and during the stormy period of the Judges which followed, they are mentioned only as one of the tribes with whom the Israelites intermarried, and as having afforded shelter to the traitor who betrayed Bethel into the hands of the children of Joseph. During the earlier portion of this period occurred the remarkable invasion of Syria by the European nations who, after subduing the Hittites, advanced on Egypt, and were defeated by Rameses III in Southern Palestine; and there are traces of another disturbance, from which the Hittites probably suffered as much as the Jews, in the conquests of Chushan Rishathaim of Mesopotamia, who held Palestine for eight years. After this the Hittites regained some of their lost power, and in the reign of Tiglath Pileser I, who died 1100 B.C., they were paramount in Northern Syria; that monarch defeated a powerful combination of Hittite tribes, amongst whom the Muski, Karkiya, and Urumiya, were the most important, and subdued the whole country as far as the Mediterranean, upon which he embarked in a ship of Aradus. From this blow the Hittites never fully recovered, and they were soon afterwards forced northwards by the expansion of the Hebrew and Syrian monarchies, which rose to importance during the period of Assyrian decline that followed the death of Tiglath Pileser's son Samsiovul. Carchemish henceforward takes the place of Kadesh, as the centre of Hittite influence, and Hamath appears as a small Hittite state—first in alliance with David, and afterwards as tributary to Solomon, who built store-cities there. On the death of Solomon, and the break up of his empire, Hamath recovered its independence, and the Hittites regained something of their former power; this did not, however, last long, for they and their allies were signally defeated by the Assyrian Kings Assurnazirpal (885–860 B.C.) and Shalmanezer II (859–824 B.C.). From the latter date the history of the Hittites, as gathered from the Assyrian records, is one of constant revolt

and cruel repression, until the final overthrow by Sargon, who took Carchemish 717 B.C., led the people away captive, and appointed Assyrian governors over the country. The most striking events of this period are the three years' siege of Arpad by Tiglath Pileser II, and the same monarch's campaign against the King of Hamath and his ally Azariah, or Uzziah, King of Judah.

Little is known of the Hittite power in Asia Minor; it was probably at its height in the fourteenth century B.C., but must have been profoundly shaken by the great victory of Rameses II at Kadesh, which, according to the striking epic of the contemporary court poet Pentaur, broke "the back of the Khita for ever and ever." The tendency of such a defeat must at any rate have been to weaken the influence of the Hittites over the Mysians, Lycians, Dardanians, and other tribes of Western Anatolia, who fought with them on that occasion. It would appear, from the Assyrian records, that the Hittites gradually split up into a number of independent tribes or states, such as the Cilicians, Moschians, Tibarenians, Comanians, the people of Commagene, and others, who are mentioned in the annals of the wars of Sargon and his successors; the final extinction of their power, however, appears to have been due to the inroads of the Cimmerians and Scythians, and they afterwards formed part of the Median empire, which extended to the Halys. So complete was their overthrow that even their distinctive name was lost, and they appear in Herodotus and Strabo as Leuco-Syrians, Cappadocians, Cataonians, &c. The wide-spread influence of the Hittites may, however, be gathered from their monuments: the inscriptions on the monument at Karabel, the Sesostris of Herodotus, on the old road from Sardis to Ephesus, and near the Niobe, in the Valley of the Hermus, show that they penetrated to the Ægean, and there are certain indications that Sardis was once in their hands. The next monuments are those at Giaour Kalessi, between Sivrihissar and Angora, and then follow the interesting remains at Boghazkeui, near Yuzgat. The ruins at Boghazkeui, of which Herr Humann, so well known from his excavations at Pergamos, made a plan last year, are quite unlike those of an ancient Greek city; they cover a wide extent of ground, and have more in common with cities like Babylon and Nineveh than with the typical Greek city gathered round its acropolis. The walls are still standing to a considerable height, and there are underground means of exit which offer several interesting features; there are also the foundations of a large temple, constructed of massive stones jointed together in a peculiar manner, and a long inscription in which, though almost obliterated, several Hittite symbols are distinctly visible. The rock sculptures, of which casts were taken by Herr Humann, are a series of religious representations with Hittite symbols above the gods and goddesses; the majority of the figures are female, and amongst them are twelve of the armed Amazons who played such an important part in the religious worship of Asia Minor. In one figure can be recognised the "effeminate character, the soft outlines, the long sweeping dress, the ornaments of the eunuch high priest of

Cybele ;" and in another the warlike goddess Cybele. Not far from Boghazkeui are the ruins of Uyuk, with the curious sphinxes, which, though made after an Egyptian model, differ widely from the Egyptian type. Uyuk is interesting as the only instance of what may be called a Hittite mound building in Anatolia, and shows us that, contrary to the practice in Assyria, the Hittites placed their sculptures so as to face outwards. To this peculiarity of construction is probably due the almost universal selection of trachyte or basalt for the sculptures instead of a softer stone ; the only exception is, I believe, at Jerablûs, where some of the slabs are of limestone. In Pontus there are traces of Hittite art in two small slabs, which I found at Kaisariych, but which came originally from the neighbourhood of Amasia. At Iflatûn Bûnar, near the Lake of Beischehr, there is a large monument of Hittite origin ; and at Ivriz, near Eregli, there is a well-preserved rock-hewn monument, representing a thanksgiving to the god who gives fertility to the earth. "The god is a husbandman, marked as giver of corn and wine by his attributes ; and the gorgeous raiment of the suppliant priest, praying for a blessing upon the country and people, is purposely contrasted with the plain garments of the god." The god wears the very dress still used by the peasantry of Anatolia ; the high-peaked cap is still in use among some of the Kurdish tribes ; the tunic fastened round the waist by a girdle is the present loose garment with its *kummerbund ;* and the tip-tilted shoes are the ordinary sandals of the country, with exactly the same bandages and mode of fastening. The sandal is very like the Canadian mocassin, and the long bandage wound round the foot and ankle is the equivalent of the blanket sock ; it is the best possible covering for the foot in a country where the cold in winter is intense, and the snow lies on the ground for a long period ; and as it appears on all Hittite monuments, I think, it is an evidence of the northern origin of the Hittites. It is interesting also to notice that some of the patterns on the priest's dress have not yet gone out of fashion amongst the Cappadocian peasantry. At Bor, between Eregli and Nigdeh, Mr. Ramsay, whilst travelling with me last year, discovered a new inscription which, unlike all Hittite texts hitherto known, is incised, and not in relief ; near the silver mines in the Bulghar Dagh is another inscription, and at the mouth of a curious gorge close to Gurun, near the head waters of an arm of the Euphrates, I found two others. It is, however, south of the Taurus, between that range and Aleppo, and eastward to the Euphrates, that the most numerous traces of the Hittites are to be found ; near the eastern extremity of the Bagtché Pass, by which Darius crossed Mount Amanus, when he came down in rear of Alexander's army before the battle of Issus, I visited a large mound on which a long row of Hittite sculptures, representing a hunting scene with great spirit, was standing *in situ ;* here, as at Uyuk, facing outwards ; a few miles beyond, on the road to Aintab, I saw other sculptures taken from one of the mounds. The district between the Giaour Dagh (Amanus) and the Kurt Dagh contains a large number of mounds ; in a small area I counted eight, which I feel sure would well repay exca-

vation. The slabs are all small, and could be easily conveyed to the coast, but, unfortunately, the British Museum has not seen its way to excavate; and the question is now, I believe, being taken up by the Germans. At Marasch, near the foot of the Taurus, several Hittite slabs have been found, and between Aintab and Aleppo, and towards the Euphrates, there are many large mounds, evidently of Hittite origin, including Tell Erfad, Arpad, and Azaz, the Khazaz of the Assyrian monuments. Several slabs have reached this country from Jerablûs, but the excavations at that place, owing to want of skill and inexperience, have not been so fruitful in their results as might have been expected. Jerablûs is generally identified with Carchemish, but unless a distinct statement is found in the Assyrian inscriptions that that city was on the Euphrates, I would place it at Membij, the ancient Hierapolis, a site which impressed me more than any other I visited west of the Euphrates. Hittite inscriptions have also been found at Aleppo and Hamath, and I think the slab obtained for the Palestine Exploration Fund from Tell Salhiych, near Damascus, is also Hittite.

A few words may now be said of the origin, religion, language, &c., of the Hittites. I fully agree with Professor Sayce in considering that the Hittites of Northern Syria and Palestine were intruders, and that they came from the Anatolian plateau east of the Halys, which was occupied by Hittite tribes from the Black Sea to the Mediterranean. This view of their northern origin is supported by their physical appearance, as depicted on the monuments, by the mocassin sandal already noticed, and by the fingerless glove, which is still commonly used by the peasantry, and is found in all cold countries. The sculptures show that the Hittites did not belong to a Semitic race. The features are rather those of a Northern people, and on the Temple of Abusimbel the Khita have a very Scythic character, with shaven head and a single lock from the crown. This peculiarity in the mode of dressing the hair is not seen on the Hittite monuments, but at Karnak and Thebes I noticed figures with the same type of feature as those on the monuments in Anatolia. It would be very interesting, and I hope it may be done some day, to obtain casts of the various types of face represented in the war pictures of Rameses II; they are very varied, and a careful comparison could not fail to be of value. Amongst some pottery dug up at Tarsus about thirty-five years ago, is a head, which seems to have been a likeness of a Hittite, as it gives the full lips, and the large thick nose, with a sharp curve at the end, which is found on the monuments. The type, which is not a beautiful one, is still found in some parts of Cappodocia, especially amongst the people living in the extraordinary subterranean towns which I discovered last year beneath the great plain north-west of Nigdeh. The religious belief of the Hittites, and its influence on the people of Western Anatolia, and through them on the Greeks, has been described, as far as it is known, in papers by Professor Sayce and Mr. Ramsay. I would only suggest now, as a subject for examination, how far the peculiar religious rites and observances at the two Comanas were of Hittite origin; at each place the priest was at least co-ordinate with the king in rank and religious power,

as appears to have been the case with the Hittites; and at Amasia the most magnificent tomb is that of a high priest. I do not know whether there was any peculiarity in the faith professed by the early Christians of Cappadocia, but it may be more than a mere coincidence that the country between Boghazkeui and Comana Pontica is inhabited by an indigenous people who, nominally Moslems, profess a religion which, as far as I could learn, approaches more nearly that of the Ansariych than any other. That the Hittites had made considerable progress in art is attested by their monuments, and we may infer from the fact that, before the Cimmerian invasion, Sinope was one of the principal outlets for the produce of the East, that they were a commercial people; the trade route seems to have passed through the Cicilian gates to Kaisariych, and thence by Boghazkeui to Sinope. It would appear from the proper names on the Assyrian and Egyptian monuments, that the Hittites did not speak a Semitic language; the language was probably that of the Leuco-Syrians and Cataonians, and allied to the "speech of Lycaonia" which was in use in the time of St. Paul; and it possibly lingered on until the complete Hellenisation of the people under the Byzantine Empire. Little progress has yet been made in decyphering the inscriptions, but there is every reason to hope that success will attend the efforts of Professor Sayce and other workers in that direction, and we shall then have a flood of light thrown upon a people with whom the Israelites at one time intermarried, whose religion some of them adopted, and with whose history that of the Jewish monarchy was, on several occasions, intimately connected.

In conclusion, I would draw your attention to an expedition which the Palestine Exploration Fund is sending to the East this month. The expedition will be under the guidance of the distinguished geologist, Professor Hull, Director of the Geological Survey of Ireland; Captain Kitchener, who has done good work in Palestine, will be associated with him, and pay special attention to topographical questions; Professor Hull will be accompanied by three gentlemen, who will devote their attention to special branches of science. The object of the expedition is, in the first place, to obtain a conclusive report on the geology of the Dead Sea basin, which has such an important bearing on the site of the Cities of the Plain; in the second, to determine the route followed by the Israelites after they left Sinai, and the pass by which they ascended to the desert of the Tih; in the third, to try and recover the sites of Elath and Eziongeber; in the fourth, to search for Kadesh-barnea, and determine the southern boundary of the Promised Land, and the boundary of Edom; and lastly, to examine the geology of Palestine itself. If but one or two of these objects can be thoroughly accomplished, a great addition will be made to our knowledge of the topography of the Bible. The Palestine Exploration Fund, and its system of working, is now well known, and I would only here express a hope that liberal subscriptions may be forthcoming to support an expedition which I confidently recommend to the notice of every student of the Bible.

THE NAMELESS CITY, AND SAUL'S JOURNEY TO AND FROM IT.

I AM thankful to Mr. Birch for his kind notice of my difficulties in regard to his paper on this subject.

I should, however, still like to add some remarks on a few of the points touched on in his reply.

As to that numbered (2) by Mr. Birch, I quite see that the words of 1 Samuel ix, 4 and 16, do not absolutely *prove* that the city was *not* in Benjamin; though, if that is not their meaning, they equally lack sufficient force to justify Mr. Birch in thinking that it was "certainly in the land of Zuph."

I argued, from the natural use of the words "passed through," "came to," and "out of," that the place thus spoken of was most probably *not* in Benjamin. For example, to tell a person in Plymouth, just over the border (the river Tamar) between Cornwall and Devon, that some one was coming to him "out of Cornwall" would be the most natural way of expressing the fact, if the person spoken of had just "passed through Cornwall."

But to tell a person at Saltash (just within the county of Cornwall) that one would be sent to him "out of Cornwall," would not be understood except it were supposed to mean that the individual was a *native* of Cornwall, as in this case Saul was of Benjamin.

If this, however, was all that was meant, the ordinary mode of expressing it we should expect to be "a Benjamite," or "a man of Benjamin."

But connecting the two statements that Saul and his servant had "*passed through* the land of the Benjamites," and that Samuel was to have a man *sent him* "out of the land of Benjamin," I venture to think that the presumption is very strong that Samuel's city was *not* in the "land of Benjamin," or of "the Benjamites."

The question here arises, however, does the "land of Benjamin" of the 16th verse mean the same as the "land of the Benjamites" of the 4th verse? The Bible Dictionary doubts whether the "land of Yemini" does mean the territory of the tribe of Benjamin. Perhaps that doubt may ere this have been cleared up.

I quite allow the force of the argument respecting David and the Cave of Adullam, if it can be proved that either the cave or the "hold" connected with it, and mentioned in 1 Samuel xxii, 1 to 5 (as well as in the passage given by Mr. Birch, and the parallel one in 1 Chron. xi, 1 and 16), was necessarily in Judah; but I would point out that in the Bible, so far as I can find, it is nowhere said that this was the case. And if the "hold" was in Judah, as allotted by Joshua (chap. xv, 35), will not the appearance in that chapter of the names of Gaza, Ashdod, and Ekron, which certainly were not in Saul's time in the *possession* of Judah, coupled

with the words of Josephus (VI, xii, § 4), that he was commanded to leave the *desert* and go into the *portion* of the tribe of Judah, make it very probable that the object of his departure was for him to go into the district inhabited by his own countrymen?

As to the narrative going back, I am sorry to say I fail to see the exact force of the statement in the passages referred to, especially as to 1 Samuel xx, 22, but would remark that the incident recorded in 1 Samuel ix, 5, is shown by its wording to have been the last occurrence prior to their seeking Samuel, and the whole of the subsequent narrative shows that they did not renew or continue their search for the asses.

(3), (6), and (8). Since I wrote, I find that Smith's Bible Dictionary advocates the claim of Zelah to be the home of Kish, and consequently the place whence Saul started, and to which he returned. As he was in his father's household when the asses were lost, and Gibeah is nowhere in Scripture connected with Kish, and only with Saul after he became king, this certainly seems preferable.

Unless, however, we accept the supposition that Zelah-ha-Eleph was part of Jerusalem, we are left in doubt regarding the situation of his actual starting-point, beyond the fact of its being within Benjamin, Zelah not having been otherwise identified.

And here I would ask whether this interpretation of Zelah, Eleph, and Jebusi, as being various parts of Jerusalem, does not satisfactorily reconcile the passages which speak of both Zelah and Jerusalem as connected with Saul's family, and explain why David took the head of Goliath to Jerusalem (1 Sam. xvii, 54), *i.e.*, because of its association with the king's family.

The route Sau was *commanded* to take in going home, ends with the Gibeah of God; for after that (verse 7) he is to "do as occasion serve," and in the *narrative* of his actual journey all details are omitted, both up to his arrival there, and also after it, if his uncle was living at that place.

No doubt the command to "go down to Gilgal" referred to a time after he had reached his father's home.

(9). I should very much like to know why Mr. Saunders draws Saul's route in the manner it appears on the O. T. Map, for I cannot understand it at all, and it seems to me that the particulars given in chapter ix, verses 4 and 5, will hardly allow of his having taken so extensive a journey. The time named, too, in verse 20, which I suppose *might*, according to Hebrew reckoning, mean only the day before yesterday (?), would indicate that their search was confined within a much more limited extent of country.

(11). My objection on this point was that as Elkanah lived at Ramah before the birth of Samuel, and Samuel passed his infancy there, it shows that Elkanah did *not* remove thither *after* the birth of Samuel.

As showing the identity of Samuel's birthplace and subsequent residence (after the taking of the Ark and the removal of the Tabernacle from Shiloh), I would remind Mr. Birch that although the Hebrew only uses

the form Ramathaim in the 1st chapter, the Septuagint names the city "Armathaim" throughout the narrative.

There being no direct statement on the points in Scripture, it is of course only by inference that it can be contended that Samuel's Ramah was *not* in Mount Ephraim, but *was* south of Jerusalem. Hence the great importance of 1 Samuel x, 2, and on this—

(12) I think Mr. Birch is somewhat unfair, both to Mr. Shapira and (especially) to the MS. quoted by him.

In the first place, it is not "Mr. Shapira's reading" on which I wished Mr. Birch's opinion, but that of the Arabic commentator.

It is true that Mr. Shapira, quoting, as he said, from memory, does not *exactly* reproduce the explanation of the passage as given in this MS.

In reply to my question, Dr. Hoerning, of the Department of Oriental MSS., very kindly informs me that the MS. in question "is in the British Museum. It was purchased in 1881, and is numbered Oriental 2387." What the author of the Commentary really says is simply this: "The prophet does not mean to imply that Rachel's sepulchre is at Zelzah. He only means that the two persons whom Saul is to meet at Zelzah are, at the time when he is speaking to Saul, *by* Rachel's sepulchre, and that Saul will find them at Zelzah, in the border of Benjamin, both having travelled at the same time as Saul to that place. According to this explanation the passage would have to be translated: 'Then thou shalt find two men, who are now by Rachel's sepulchre, in the border of Benjamin at Zelzah.'"

Practically, therefore, it is a tenable view of the passage, that Saul was not going to Rachel's sepulchre at all, but to Zelzah, where he should be met by two men coming from thence. There is nothing in this to require us to believe that there was a village at Rachel's sepulchre.

This verse is the main difficulty, and whether Zelzah is looked on as the name of a place, or signifies, as the Septuagint translates, that the two men were "leaping for joy," the *place* where Saul was to *meet them* was evidently in the border of Benjamin, another incidental proof that the city was not within that territory, for it is not likely that Saul's journey to his father's home (certainly *in* Benjamin) would lead him from within to the border.

(13). Though I cannot find any direct Scriptural statement which shows them to be different places, yet further study leads me to agree with Mr. Birch that the Ramah of Judges iv, 5 was not the same as Samuel's Town.

As to the expression used of the Benjamite Sheba, that he was a "man of Mount Ephraim," I would ask whether that expression proves any more than that he was a Benjamite who had gone to dwell in some part of Mount Ephraim, just as "Tola, a man of Issachar, dwelt at Shamir in Mount Ephraim," and further, whether the term in 1 Samuel i, 1, "of Mount Ephraim," is necessarily connected with Ramathaim-Zophim, showing that that place was *in* Mount Ephraim; or may it not apply simply to Elkanah? so that Mr. Birch's explanation, page 52, iii, 3, would be correct, rather than 5 or 6 (see page 53, line 10).

To conclude, then, I venture to suggest that the "Nameless City was Ramah = Ramathaim-Zophim; that it was a place outside the border of Benjamin; that it was so situated that just after leaving Ramah, Zelzah in the border of Benjamin would be reached, and the two men be met who had come from Rachel's sepulchre. Going on from Zelzah, the Oak of Tabor would be the place where Saul would meet the three men going up to God at Bethel (? the place, or simply the "house of God"). Next to this he would reach the "Gibeah of God," with the outpost (or pillar) of the Philistines, and after passing the city (? Kirjath-Jearim) would, on meeting the company of prophets descending from the "high place" (? where the Ark was), himself be filled with the spirit of prophecy likewise.

After this he goes to his native place Zelah, and Samuel subsequently calls the assembly at Mizpah, where Saul's election by lot takes place, and he then makes "Gibeah of Saul" his home henceforth.

I hope Mr. Birch will excuse my persistence in thus holding to some of my former views, and trust the discussion may be the means eventually of leading to a settlement of some doubtful points.

H. B. S. W.

September 25th, 1883.

EGYPTOLOGY AND THE BIBLE.

(*An Address by the Rev. Henry George Tomkins, late Vicar of Branscombe, at the Reading Church Congress.*)

The topic prescribed for me is "The bearing of Egyptology, in its most recent phase, on the Bible." I would first say this: that to show the bearing of Egyptology on the Bible is rather to prove, by innumerable small coincidences, that which Ebers has so well called the *Egypticity* of the Pentateuch, than to establish any particular historical point by external and monumental evidence. But that function of Egyptology is a very important one indeed. For instance, the life of Joseph is supported at every point in the strongest probability by the parallel between the Egyptian monuments and the record in the Bible. I will not, however, take up much of your time in arguments this evening. I would point out that in the main, roughly speaking, the Delta of the Nile is almost the Biblical Egypt. We have so little in the Bible beyond the Delta, that we may say that the Delta is almost the Egypt of the Bible. I will now take three points in the Delta. The first is that of the Biblical Zoan, the Sán of the present day, where the immense ruin-heaps are waiting to be explored. Here, already, the results of comparatively superficial examination by Mariette are so very important, in having recovered the sculptures

of the "Shepherd Kings," that we may expect something still more important from a thorough search of the ruins. The "Field of Zoan" of the Bible is called by the same expression in Egyptian records. The Field of Zoan was the scene of the great wonders which God performed by the hand of Moses. I do not think that Zoan is, as Brugsch supposes, the Zar of the Egyptian monuments. But now we will come to that point—to the place called Zar or Zaru on the Egyptian monuments, and here we come upon a very curious Biblical coincidence. In the 13th chapter of the Book of Genesis, where is described Lot's choice of the Jordan plain, it says: "The plain was well watered everywhere, even as the garden of the Lord, like the land of Egypt as thou comest unto [when thou enterest] Zoar." But there is very strong reason for believing that these words should be read not "as thou comest into Zoar"—which is far away from the land of Egypt—but "when thou enterest Zar." [The Hebrew word *exactly* suits this.] And I want to say a word about that place Zar. It was a most important military point, for it was the place of starting for all the Egyptian expeditions into Syria during the great reigns of the Thothmes and Rameses Pharaohs. They started from "the fortress of Zar;" and there is still to be seen at Karnak that magnificent tableau which represents the triumphal return of Seti I from one of these expeditions. You can see the "Fortress of Zar," and the Pharaoh in his chariot, at the head of strings of captives who are being taken into bondage in the land of Goshen. The open portals of the fortress are to be seen, and the fortified points of the great military road from Syria; and this is very important, for it is surely connected with a discovery of the late lamented Rev. F. W. Holland, Vicar of Evesham. In a letter to me, in May, 1880, he said: "The road which I discovered to the south of that (viz., of Brugsch's route of the Exodus), running due east from Ismaïlia, will, I hope, have had a special interest for you, as the route of Abraham into Egypt. It is a very remarkable road, evidently much used in ancient times, and it is curious that it has remained unknown." Mr. Holland described his route in a paper read before the British Association, and reprinted in the *Quarterly Statement* of the Palestine Exploration Fund for April, 1879. I hope this most important ancient road will not remain unknown much longer, for it ought to be very carefully surveyed. It is the road by which the fathers came into Egypt; the road at the termination of which, a little within that "Fortress of Zar," Joseph went to meet his father, with all the pomp of Egyptian monarchical grandeur, with his chariots and his escort; the road by which the great armies of Egypt went out upon their wonderful expeditions, which Sir Charles Wilson has referred to, against the Hittites and their other enemies; and therefore I say it is a road well worthy of being thoroughly surveyed. And I cannot help thinking that, since we know approximately the situation of that fortress of Zar, which was the key to the great military inlet to Egypt, by which our own troops so lately led our expedition to Cairo,—I cannot help thinking that if we were to put one thing and another together, we should find ourselves on the eve of very important results. The inlet of this ancient road must

needs be closely connected with the great military position in the strong eastern fortified wall of the ancient Pharaohs, the key to Lower Egypt, the Fortress of Zar, hitherto confused by Bible readers with Zoar in the passage I have quoted. And that discovery of the true Zar of Genesis xiii, which was made by the learned Dr. Haigh, in 1876, is taken for granted by Dr. Dümichen, in his important history, now in course of publication. That Zar is a place which should be carefully looked for. Now we will go a little further, about twelve miles along the land of Goshen along the line of the sweet-water canal, along the exact line of our recent military operations, and to the spot where I think the first engagement took place. We find there, at Tell-el-Maskhuta, the ruin-heaps and the ancient fortified walls of a most important place—one of the twin store-cities which were built by the Israelites for their oppressor, Rameses II. The venerable Lepsius distinguished himself, among many other achievements, by the identification of this place, upon apparently unassailable grounds, with Rameses. It has been taken for granted, and the railway station there is called "Ramsis." M. Naville, in the course of his excavations made there for the Committee of the Egypt Exploration Fund, has found very important monumental evidences. I can give you a short account of his results, but I have not time to argue. I am perfectly aware that Dr. Lepsius still adheres to his original idea that Tell-el-Maskhuta was Rameses, and I have read his recent article in his *Zeitschrift* with the greatest attention. Now, M. Naville has found a very great and strong wall of circumvallation of that ancient fortress. It is built of crude bricks, enclosing a restricted area of about twelve acres, but those twelve acres are occupied in a strictly military manner by the magazines of a "store-city." These store-chambers are very interesting indeed. They had high walls, and were strongly built, and they had the peculiarity of being opened only at the top. There were no doorways, and no inlets at the sides, and that peculiarity entirely tallies with the well-known representations of Egyptian granaries and store-chambers given by Wilkinson and Rosellini. While this was a store-city, it was a sanctuary as well, according to the custom of the Egyptians. Like other towns, it had a twofold name, a religious and a civil name, as, for instance, our own Verulam is called St. Alban's. The secular name of this place was Seku or Sekut, *i.e.*, Succoth of the Bible. Let me remark that Brugsch has vindicated the sibilant pronunciation of the first Egyptian consonant, the well-known lasso-shaped hieroglyph, in Lepsius's *Zeitschrift*, 1875, p. 8. It is, then, a most interesting fact that the secular name of this place was Succoth. I take this as proved, for it is established by the mention of Seku or Sekut twenty-two times in the inscriptions found there. There are the priests of the well-known setting-sun-god, Tum, of Sekut. And the sanctuary is called, fifteen times over, Pi-tum—the abode of Tum. If any one should question this, I will gladly give the references by which I think it is clearly established. Thus, it was the first halting-place of the Israelites in their exodus. And that is the first nail yet driven hard and fast in their route. We have had many theories and

contests, and an agreeable diversity of opinion, but from henceforth I believe that the theory of Brugsch, that the Pharaoh's host was swamped by the setting in of the waters of the Mediterranean in the Serbonian marsh, must be given up, and the old theory that the escaping tribes went along the valley of the sweet-water canal must be regarded as firmly established.

And now we are passing out of the region of vain conjectures into the region of historical realities.

There is another point. Tell-el-Maskhuta is not only the Pithom and the Succoth of the Bible, but a very interesting place, of which we read in the Septuagint version. When Joseph went to meet Jacob, and Judah was sent to meet Joseph on behalf of his father, the meeting-place was Heroöpolis. The identity of the spot is pointed out by Roman inscriptions there, with the name ERO, ERO CASTRA. The derivation of the name given by M. Naville is very interesting, namely, the Egyptian word "Ar," a storehouse, of which the plural is "Aru," identical with the Greek HPOY found on the spot. Thus the name is found, and the road is found, by which Jacob came and Judah went on before him. I may say besides that there is a very curious confirmation of the Biblical account of the work of bondage. The walls are very well built. The bricks are of Nile mud, and embedded in mortar, which, reminds us that the Egyptians "made the children of Israel to serve with rigour, and made their lives bitter with hard bondage, in *mortar* and in brick" (Ex. i. 14). There are three kinds of brick used, the first made with straw properly provided; the next are made with *reed* (the "stubble" of our Bible, and the word used is pure Egyptian, *Kash; arundo, calamus*); and the third kind are made of sheer Nile mud, when even the reeds were exhausted. All these M. Naville has found at Pithom.

I will only add a few words more in following the illustrious Engineer officer, Sir Charles Wilson, whom I am happy to see here in the interest of the Palestine Exploration Fund, and that is that I am a humble member of the committee of the Egypt Exploration Fund, not by way of rivalry, for I have been a local secretary of the Palestine Exploration Fund, for many years. The one is the complement of the other. Sir Charles Wilson is himself on the committee of the Egypt Fund. I will therefore only make the shortest possible appeal, and ask, Is it not worth while to pay for pickaxes, to get at the wisdom of the Egyptians?

THE FORTRESS OF CANAAN.

In the last *Quarterly Statement* (Oct., 1883, p. 175) my friend Captain Conder, R.E., has made a very important and interesting identification (as it seems to me), viz., that of Khŭrbet Kan'ân, near Hebron, with the fortified post of Kanâna, taken by Seti I in his first year from the Shasu.

It is curious, indeed, that the renowned name of Canaan should be found alive only at this one spot. There is no difficulty in its site on the hills, for there were Canaanites dwelling in the hill country of that very region (Num. xiv, 45), even at Hebron itself (Judges i, 10), and one great Canaanite king had his headquarters at Arad (Tell-Arad), in the hills about sixteen miles south of Khŭrbet Kan'ân.

I do not think Seti's march lay through the "vicinity of Gaza," but by the other road through Beersheba. For we now know the starting-point, as well as the object of attack. Whether the Rebatha of Seti was Rehoboth, רחבות, may be doubted, for the name Rebatha lacks the radical ח, and more resembles a *Rabbath*. Can it be represented by Khŭrbet Râbûd (Sheet XXI, Name Lists, p. 401 ; "Memoirs," Vol. III, 360), where there are ruins, walls, and caves? Perhaps the pool or tank could hardly have been near ; but it is on the right road.

And now I may say something of the great military route followed by the Pharaohs of the eighteenth and nineteenth dynasties into Syria.

We must shake off the teaching of Brugsch as to his supposed identity of the great key-fortress of Tsar, or Tsaru, with Tsân (Zoan, Sân), and revert to his own former and right view. I gladly quote from the learned Dr. Haigh, whose labours have been too much overlooked (Zeitschr., f. äg. Spr. 1876, 54) :—"Here, therefore, he (Seti) enters Egypt at the close of his campaign, as hence he had set out at its commencement. It was, in fact, Egypt's eastern gate ; hence Thothmes III departed on his first expedition to Asia ; here . . . the Mahar began his foreign travels ; and the same place was . . . the gate of entrance for the Shasu on their way to the pools of Pi-tum. Its frontier character is still farther indicated by the text I have cited from Genesis xiii, 10 : 'The land of Egypt as thou enterest צער (Tsár) ; by its title 'the seal ;' and by its having the determinative sometimes of Egyptian, sometimes of foreign, places. Then Dr. Brugsch has cited a text which says that the canal which flowed through it connected the Nile with the water Akeb, and shown that this canal must be that which Pliny says flowed from the Nile through Babylon and Heroöpolis, and had received the name of Trajan, and may still be traced from the site of Babylon to the ruins of Mugfar, where it entered the Birket Timsah. Indeed, the identification of this place with the later Heroöpolis, and the Mugfar of to-day, seems to me to have been irrefragably established by Dr. Brugsch. Later, however, he has abandoned this strong position, and identified Tsár with צען (San), which can never have been the eastern gate of Egypt, and which stands on one of the channels of the Nile, not on a canal connecting the Nile with a lake." Dr. Dümichen has dealt decisively with this matter in his "Geschichte" (in Oncken's Collection), pp. 257, &c., concluding "that the identification of it with Tanis-Zoan, so strongly maintained by Brugsch, absolutely cannot be brought into accordance with the data found in the Egyptian texts as to its situation."

Now Heroöpolis has been found by M. Naville (not at Mugfar, indeed, but) about six miles further west than Mugfar, at Tell-el-Maskhuta. And

I think the ancient road found by the lamented Rev. F. W. Holland in 1879 (*Quarterly Statement*, 1879, p. 59), "running" (as he wrote to me) "due east from Ismaïlia," and by which he was convinced that Abraham and Joseph and Jacob entered Egypt, was evidently the route of Thothmes III, and Seti I, and Râmeses II, to the Negeb; and, perhaps, of Aahmes I long before, when he chased the routed Hyksôs to Sharuhen; and probably of Amenemha I against the Seti, and still earlier of Pepi Meri-râ against the Herusha, whose name again occurs among the foes of Seti I. For let us remember the great antiquity of Tsar, or Tsaru. The treatise in praise of learning ("Records of the Past," VIII, 145) "is attributed," says Dr. Birch, "to the period of the twelfth dynasty; but the name of Pepi, the same as that of a monarch of the sixth dynasty, may indicate that it is of the earlier period." This curious treatise is "made by a person of Tsaru . . . to his son Pepi."

Now Tsán is as old as Pepi of the sixth dynasty (and was "built seven years after Hebron") and I little doubt that Tsar is of about the same high antiquity, and probably the work of the same founders; and it seems very highly probable that this great key-fortress stood where the ancient eastward road entered the Wâdy Tumilât. Is it out of hope that it may still be found, and monuments recovered bearing the name of Tsar?

I will not enlarge on this at present, since my purpose is just now to urge a further examination of the ancient road itself, strewn with flint flakes, among which Mr. Holland found "several beautifully-made arrowheads." The splendid tableaux of Seti I at Karnak give the names of more than half-a-dozen halting-places, with forts and wells, or pools, on his route to Kanâna, and it may be hoped that some of these may be ascertained. We want a supplemental survey from Beersheba to the Suez Canal.

Dr. Haigh came to the conclusion that the fortress of Kanâna lay in the Arábah south of the Dead Sea, and Brugsch seems to follow him in this ("Hist. of Egypt," Eng. ed., II, 13).

But now that Kanâna is found, we have much more to go upon; and Professor Palmer's journey in 1869 (*Quarterly Statement*, 1870, with map), and Mr. Holland's in 1879, with supplemental and more recent travels, such as Mr. Pickering Clarke's, recorded in the last *Quarterly Statement*, may help to make out the route of Seti to the Hebron region. The fortified watering-stations on this eastward route in Seti's tableaux bear mostly Semitic proper names, but unluckily some are surnamed with Pharaonic titles, which would soon be lost. The names recorded in the travels of the Mohar, some of them parallel with those of Seti's inscriptions, have been studied by the late M. Chabas ("Voyage d'un Egyptien," 1866), by Dr. Haigh, and by Captain Conder (*Quarterly Statement*, 1876, p. 74) and doubtless more light will be thrown on them by future researches. The discovery of Seti's Kanâna should encourage such inquiry, as it distinctly limits the area of search when taken in connection with the ancient road, and the true position of Tsaru.

It is a remarkable thing that we find in the great Harris papyrus ("Re-

cords of the Past," VI, 34) to which Captain Conder refers, that Râmeses III, in whose time the Philistines established themselves strongly as his subjects in the south-west of Palestine, built a fortified temple at Kanāna, of which the god was "Amen of Râmeses hiq-An" (Râmeses III), whither the people of the land, the Rutennu, brought their tribute. This was probably in the time of the Judges, and it agrees well with the insolence of the Philistines towards the Hebrews at that time. The intimacy of the Philistines with the Egyptians, whose enemies, auxiliaries, and allies they were in rapid succession, is curiously let out in 1 Samuel iv, 8; vi, 6, where the Philistines and their diviners make familiar reference to the obstinacy of the Pharaoh and his counsellors, and the destruction of the Egyptian forces on the desert frontier.

We should not overlook the interesting point that like so many other ancient names, Kanāna seems to have travelled down from Northern Syria, where it is found in Assyrian records, as Dr. Friedrich Delitzsch remarks, and whence it seems to have extended as the well-known Biblical name Canaan to the whole coast-lands of the Mediterranean down to the Egyptian frontier. Here, then, is Kanāna in the hill-country west of the upper Euphrates, and the identical name as far south as Hebron, with the sons of Heth in both. ("Wo lag das Paradies?" 104, 270.)

Whether the name still lives in the northern as in the southern soil it will be interesting to inquire, for the Hittite land of Northern Syria is as yet almost unexplored. It is fair to say, however, that Schrader does not agree with Delitzsch in the view he takes of this name ("Die Keilinschriften, &c.," 2nd ed., p. 90).

I must add that M. Naville's discoveries at Tell-el-Maskhuta have shown that it was for Râmeses II that the Israelites built Pi-tum and Râmeses, and have thus confirmed definitely the general opinion of Egyptologists that he was the Pharaoh of the great oppression, and his son, Mer-en-Ptah, the Pharaoh of the Exodus. Therefore the attack of Seti on the fortress of Kanāna must have preceded the Exodus by more than forty years.

In the same series of scenes Seti I conquers the Shasu from Tsar to Kanāna; the Kharu (Syrians); the Kheta (Hittites); and Amaru (Amorites); and takes the fortified town Kadesh in the land of Amar of the Amorites), and overruns the country to Naharina. Thus Seti effectually prepared the way for his son Râmeses, whom he took with him in his wars, and established fortified posts in the desert and in Syria, and especially wells and tanks fortified. Such a well-spring, so protected, might be fitly called "a fountain sealed," מעין חתום, (Cant. iv, 12), for *Khetam* is the very word in Egyptian for a fort, still found at Sarabit-el-Khadem, the Egyptian military mining station in Sinaïtic Arabia.

An account of Seti's triumphal reliefs at Karnak may be found in Professor Lushington's paper in "Trans. Soc. Bib. Arch.," Vol. VI, 509; and the tableaux are excellently reproduced from Rosellini's large plates in M. Lenormant's new edition of his "Histoire Ancienne de l'Orient," Vol. II. I am very glad to know that Professor Maspero is now engaged on a

separate History of Egypt, in which all the most recent results will be taken into account.

HENRY GEORGE TOMKINS.

Weston-super-Mare,
November 16th, 1883.

HIDING-PLACES IN CANAAN.

V. THE CAVE OF ADULLAM, OR OLAM, NOT NEAR ADULLAM, BUT AT KHUREITUN.

JOSEPHUS says this cave was near the city of Adullam, but William of Tyre identifies it with the well-known and often described cave of Khureitûn, four miles south-south-east of Bethlehem.

I propose to show that, for once, mediæval credulity proves victorious over antiquity, ability, and the numerical superiority of its opponents. The explanation is simple enough: the Crusaders' rough practical knowledge of David's outlaw wants was a far more reliable guide than the subtler acumen of literary critics.

The cave is named in two Biblical episodes.

(1) "David departed thence (*i.e.*, from Gath) and escaped to the cave (of) Adullam" (1 Sam. xxii, 1).

(2) "Three of the thirty captains went *down* to *the rock* to David, into the cave of Adullam; and the host of the Philistines encamped in the valley of Rephaim. And David was then in *the hold*, and the Philistines' garrison was then at Bethlehem" (1 Chron. xi, 15, 16). In 2 Samuel xxiii, 13, a copyist's error gives "in the harvest time" for "to the rock."

Hence we learn that there was near the cave some conspicuous rock or eminence, as well as some hold or fortress.

It seems to me that this same hold is referred to in the following passages:—1 Samuel xxii, 4, 5; 1 Chronicles xii, 8, 16; 2 Samuel v, 17; and just possibly 1 Samuel xxiv, 22.

PART I.

Ten points have been named in favour of the cave having been near the city of Adullam (in the Sheplehah), identified by M. Ganneau with the ruins of Aid el Mieh, near Wâdy es Sur.

(*a*) The Bible speaks of the "Cave of Adullam," and mentions only *one* city of that name. But "the oak of Tabor" had nothing to do with Mount Tabor, and so it does not follow that the cave of Adullam had necessarily to do with the city of Adullam.

Further, as in (1) and (2) the precise words are "to the cave *of* (not *at*)

Adullam," it is not certain that "Adullam" means a place at all; it may only be a descriptive title.

(*b*) Josephus distinctly states that the cave was near the city of Adullam. But he is too inaccurate and inconsistent a writer to be any authority in this case. In fact, the balance of his opinion is adverse to those who quote him on this point. In a later statement he identifies the hold near the cave of Adullam with the citadel of Jerusalem, and the *later* statement should surely outweigh the earlier one, if a writer may alter at least his own mistakes. The fact is, his first identification was easily made because the cave of Adullam looked like the cave *at* Adullam, and then it was easily rejected because he took the *hold* in 2 Samuel v, 17, to be the *stronghold* of Zion, as (almost) the same Hebrew word is used for the two, while "went *down*" is altered into "went *up*," to make all square. A writer who can interchange such words at his own sweet will, and turn his back upon himself in a few pages, is a guide on whom I for one cannot rely. But if Josephus is to be believed, why quote the earlier statement which he himself discredits?

(*c*) "David is spoken of whilst in the hold of Adullam, as not being in the territory of Judah (1 Sam. xxii, 5). This agrees with the position of Adullam in the Shephelah beyond the mountains to which Judah was confined when the Philistines were too powerful for the Jews" (*Quarterly Statement*, 1880, p. 174). But as the cities which even Samuel recovered were those "from Ekron (1 Sam. vii, 14) to Gath," and as Shochoh in xvii, 1, is reckoned to Judah, it seems incredible that after the fall of Goliath Adullam could be considered as not being in the territory of Judah (see Josephus, "Ant.," VI, xii, 3). While, however, I admit that the hold (1 Sam. xxii, 4, 5) was near the cave of Adullam, I do not allow that "Get thee into the land of Judah" requires the hold not to have been within the tribe of Judah. The Sp. Com. observes that "1 Samuel, xxiii, 3, implies that Keilah was not in Judah, at least not in the hill country which was probably what they meant by the term." Exactly so. Keilah and Adullam were both in the *lowland* district, while the forest of Hareth was in the *hill* district, and the cave of Khureitûn is in the *desert* district. Thus David could be said to go into Judah whether he started from Adullam or Khureitûn. Therefore 1 Samuel xxii, 5, suits either site.

(*d*) "David here (at Aid el Ma) encamped between the Philistines and the Jews, covered the line of advance on the cornfields of Keilah" ("Tent Work," p. 278). But much more he ought to have hindered their advance on Bethlehem, if [see (*j*)] the exploit of the three captains took place at that time. The time, however, of the Philistine foray doubtless depended on the state of the corn, and not on David's absence.

(*e*) "At Adullam the sides of the valley are lined with rows of caves, and on the hill is a separate cave" ("Tent Work"), which in *Quarterly Statement*, 1881, p. 44, is, with a touch of humour, described "as sufficiently large to have been the habitation of David while his band was garrisoning the hold or fortress." But that any of these caves would make a good hiding-place is not a suggestion that I should like to have made to David.

As for the explanation that his men garrisoned the hold or fortress, *i.e.*, the city of Adullam, it must be pointed out that a fortified town was the very *worst* place of refuge David could have. When Saul heard that David had come to Keilah, he said, "He is shut in by entering into a town that hath gates and bars." After escaping through a window at Gibeah, it is incredible that David or his men, or both, would seek safety *within* Adullam. Besides, Saul never heard of David while he was at the cave of Adullam. Were then all the Adullamites friends to David, and only the Keilites traitors? It is impossible that David could take refuge close to a well-known town, and be joined by 400 men, and Saul not hear a word about it.

(*f*) "There is no great cavern at the ruin in question (at Adullam). This is precisely why the site seems most probable. The dampness and the feverish character of the atmosphere . . . seem to prevent the large caves from being ever used as habitations" (1875, p. 148). But according to the Bible the cave seems to have been the abode alike of David and his men, amounting to 400. It speaks not of *caves*, but of one only, and that must have been a large one. If there is no large cave at Aid el Ma, then the site is herein unsuitable for the cave of Adullam. Further, it is a complete mistake to suppose, in general, that the large caves in Palestine are never used as habitations, and in particular that the cave of Khureitûn is either damp or feverish. (See below, 14, 16, 17, 19.)

(*g*) "It follows, from the expression 'Brake through the host or camp,' that the way from Adullam to Bethlehem lay through or across the valley of Rephaim" (Sp. Com. on 2 Sam. xxiii). Gesenius's Dictionary gives "brake *into*," which removes the difficulty at once. Any possible position, however, for Adullam is such that the captains on their way from it to Bethlehem would not have to pass through or across the valley named.

(*h*) "The hill at Adullam is the strongest site to be found in the neighbourhood of the rich corn lands of Judah" (1875, p. 149).

(*i*) I make the Adullamites a present of this jot. In the neighbourhood of the cave of Adullam was *the rock* [see (2)] or (Hebrew) *Tzur*, and the valley near Aid el Ma is called Wâdy es Sur, *i.e.*, the valley of the rock. The name Sur also occurs twice more in the same valley. Now I admit that these two—(*h*) and (*i*)—are remarkable coincidences, but there were other strong positions beside that of Adullam. Of Herodium it is said ("Tent Work," p. 152): "In the scenery south of Jerusalem, and in views of the country round Bethlehem, this mountain (Jebel Fureidis) forms a most remarkable feature." Thus both the rival sites seem to have a prominent hill close at hand. Possibly Wâdy es Sur got its name from Beth-zur, as one of its tributary valleys comes down from that place. If Adullam meant the well-known city of that name, it would seem superfluous to mention *the rock* along with "unto the cave of Adullam" in 2 Samuel xxiii, 13.

(*j*) "The journey from Ed el Miye to Bethlehem and back, about twelve leagues, would be nothing for the light-footed mountaineers who surrounded David. Those who consider the distance too much have only to remember

that it is related as an exploit, and that the fatigue has to be added to the risk (M. Ganneau, 1875, p. 177). This incident seems to me the crucial point on which the false claims of Adullam to be the site of David's cave are hopelessly shivered to pieces.

First let it be settled on what known occasions David was or may have been at the cave of Adullam.

I. He was there after leaving Gath (1 Sam. xxii, 1, 4, 5), and after his return from Moab, if (as I believe) *the hold* meant that near the cave of Adullam.

II. Just possibly after sparing Saul's life at En-gedi (xxiv, 22), if 'the hold means that near the above cave.

III. After he was anointed king over Israel (2 Sam. v, 17), for then on the invasion of *all* the Philistines, David went *down* to the hold, if (as I believe must be the case) this hold means that near the above cave.

To which of these are we to apply 2 Samuel xxiii, 13? If to I, then we have to believe that not long after the sore defeat at Ephes-Dammim the Philistines actually penetrated to the heart of Saul's kingdom, and that while their host was encamped in the valley of Rephaim, and their garrison was at Bethlehem, the three captains indeed showed heroic courage, but that neither Saul at Gibeah nor David at Adullam stirred a finger to interfere with them, although the latter was down at once upon the enemy when they robbed the threshing-floors at Keilah. Such inaction would be equally inconsistent with the activity of Saul and the patriotism of David.

It seems to me, therefore, utterly incredible that the exploit took place on occasion I.

If we refer it to II, then we have to believe the same impossibilities even when David's men had increased to 600. This also must be rejected.

Only III remains, and it may be observed that Josephus joins together 2 Samuel v, 17, and xxiii, 13, in "Ant.," VII, xii, 4. David must have been driven to the very last extremity when he withdrew from the impregnable fortress of Zion, and went down to *the hold*. But here again it is incredible that a genius of David's intelligence and military capacity, when all the Philistines came up against him, should have made a flank march to Adullam, close to the enemies' country (like an ostrich putting his head into a small cave), instead of retiring on the wilderness of Judah, the constant rallying place of the Jews when they were hard pressed by their enemies. Besides, if David at this time fell back on the city of Adullam, why should he further dwell there in a cave and not in a house? This incident seems to me to crush to atoms the popular notion that the cave of Adullam was near the city of Adullam. I now claim that destructive criticism has annihilated this error, and shown where the cave was not. It remains to show where it was.

Part II.

In disposing of the above ten points, I claim to have proved that the cave of Adullam was not near the city of Adullam. I will now give

twenty points proving that it was the present cave of Khureitûn, and invite the Adullamites to show how my argument fails.

1. *The cave was in the desert of Judah.*—The desert on the eastern side of the watershed was always a favourite refuge of the Jews in time of danger—*e.g.*, Rock Rimmon, Masada, 1 Maccab. ii, 31. Hunted out of Gibeah, pursued to Ramah, only extricating himself from Gath by a clever artifice, David must have been a madman indeed to seek safety close to any city. Nothing remained for him but to escape to the wilderness—the scene of his future wanderings.

2. *It was not far from Bethlehem.*—Hence he could communicate with his friends, get food and also notice of Saul's movements. Yet at the same time he would be in perfect concealment, and as a matter of fact Saul remained in complete ignorance of David's whereabouts during his stay at the cave. Treachery alone could have helped Saul, and on one occasion David seems to have suspected it in (1 Chron. xii, 17) the case of Amasai. The cave cannot have been far from Bethlehem, as David while in "the hold" must still have been watching the Philistines in the valley of Rephaim (2 Sam. v, 17).

3. David's parents would easily and naturally go *down* to the cave of Khureitûn.

4. Thence Moab was an obvious and accessible place of refuge.

5. This position of the cave suits the expression "into the hold to the wilderness" (1 Chron. xii, 8).

6. From this cave in the wilderness, David might rightly be said to go into the land of Judah (see (*c*) *supra*).

7. If Samuel's Ramah was (as I believe) near Bethlehem, then it would be easy for Gad, if he belonged to the school of the prophets at Naioth, to join David at this cave.

8. As Jebel Fureidis, or the Frank Mountain (Herodium), may be passed on the way to the cave from Bethlehem or Jerusalem, and as it is the most prominent eminence in this part of the desert from Judah, it exactly answers to *the rock* in 1 Chron. xi, 15. The relative position of the places suits Kennicott's rendering: "The three captains went down *over the rock* to David into the cave of Adullam."

9. The hold was apparently some strong position near or just above the cave. Bethlehem must be visible from some point close to the cave of Khureitûn, so that the exploit of the three heroes (Jashobeam, Eleazar, and Shammah, according to Kennicott) doubtless took place under the very eye of David.

10. *The cave of Khureitûn must have been known to David.*—As he formerly fed sheep in this wilderness, he must at some time have observed the open mouth of the cave across the yawning ravine, and youthful curiosity would lead him to explore its hidden depths. Probably, however (see 20), the cave had attained fame long before David was born.

11. *But it was not known to Saul*—who, though well acquainted with Benjamin's great cave (1879, p. 125), would have had much trouble in finding Judah's more famous hiding-place. Sheikh Abou Dok'n, in 1864,

after wandering with a companion perseveringly for five hours, had to give up his search in despair ("Land of Israel," p. 402).

12. The cave of Adullam was a *large* one, and "the cave at Khureitûn is the most remarkable cavern in the country" ("Tent Work," 152).

13. *No other large cave* (to my knowledge) *exists both in the wilderness and near Bethlehem.* If any such, however, is known, this is a point on which Captain Conder must have information. Curiously enough, a cave actually named "Davd's cave" is marked on the map three and a half miles east of Bethlehem, but it is not thought worthy of particular notice in the "Memoirs."

14. Large caves in Palestine have frequently been inhabited in times of danger, *e.g.*, Mugharet el Jai (1879, p. 119).

15. *This cave is habitable.*—Mr. Drake reported (*Quarterly Statement*, 1874, p. 25); "The main objection urged against this (*i.e.*, Khureitûn) being David's lair is its position, which is said to be too far eastward (for it to be near the city of Adullam); but in all other respects it is most admirably suited for an outlaw's hiding-place." Stronger testimony could not be desired.

16, 17. "This cave is *dry* and *airy;* the air of the cave was dry and pure" (Drake). "The air is dry and good" ("Memoirs"). There seems therefore, to have been some unnecessary alarm about David's taking fever or rheumatism. My visit to the cave of Khureitûn with H. B. was on April 3rd, 1875. Heavy rain had fallen the previous day, and during March the rainfall had reached 10½ inches. Within the cave water was dropping in two places. In 1877 less than 1 inch was registered (1883, 22) in the same month, so that if David had a fine season he must have found the cave as dry as tinder.

18. *This cave is well provided with water.*—"Two other openings beside the door fully command the path to 'Ain el Natuf (the dripping spring or well), which consequently could not be used by an attacking party, while, owing to the overhanging rocks, a besieged party might draw their water with impunity" (Drake).

19. This cave has not only been actually inhabited at times, but must have been *much resorted to*, as proved (1) by history. A thousand refugees in B.C. 166 hid themselves (so Prideaux, Jahn, Milner, rightly I believe) in *one* cave in the wilderness near Jerusalem.

On being betrayed they refused to come out of their hiding-place, and as they offered no resistance on the Sabbath, either by casting stones or stopping the *openings* (N.B.—plural) of the cave, they were suffocated by smoke, at the command of Philip (rightly named) the Phrygian. Khureitûn may well have been the scene of this massacre.

St. Chariton probably started housekeeping in this cave when he was building his Laura, called Suka. Beyond question the Tekoites took refuge here in A.D. 1138 (Robinson's "Bib. Res.")

(2), By excavation. Colonel Warren, after digging, reports ("Letters," p. 84): "In the second chamber, after working through a loose, brown *loam abounding in pottery*, a stalagmite floor, 3 inches thick, was reached, at

4 feet 6 inches," and "in the first cave the stalagmite floor was reached at a depth of 7 feet, the white dust between it and the rock having a depth of 15 inches; *the 7 feet of loam was full of broken pottery.*" As the shards do not seem to have been *Moabite*, they may be taken to be conclusive evidence that the cave was once a popular resort.

20. But how did this great cave near Bethlehem come to be entitled the cave of Adullam? for, of course, there was no second city of that name close to it. It is also called at the present time Mugharet M'asa. My conjecture that this word was got from the Hebrew *Masa* (a refuge) was rejected by Captain Conder, whose own explanation, that it means "the *intricate* cave," was in turn set aside by Professor Palmer, who translated it "the cave of the rebellion." Can this have any reference to David's outlaw band?

No reasonable explanation seems to have been given of the meaning of "Adullam." Jerome's attempts are only fanciful. R. J. Simonis says it means "the cave of retirement," apparently referring to David's hiding there. Hebrew scholars on this point seem unable to give us any real help. Bearing in mind the extraordinary character of the cave, its great length (reported by the Arabs to reach to Tekoa and even to Hebron), its numerous chambers, and its endless windings, it seems to me that a cavern so remarkable would certainly acquire a special name marking its unique character. Can "Adullam" then be a corrupt reading for some other word? The only satisfactory conclusion I can come to is this. The meaningless title "Maarath Adullam" becomes a very striking one by the slight alteration of ד (daleth) into ו (vau). I believe, then, that the original name of the cave was "Maarath Olam," or the Cave of Eternity, *i.e.*, "the Old Cave" (as in Prov. xxii, 28; xxiii, 10, *old landmark*). Just as the Kishon seems to have been called the ancient river, *i.e.*, most ancient in the memory of man, so it seems to me that the cave of Adullam is a corruption for "the old cave," whose fame had been handed down from generations past. But how came the alteration to be made in *three* passages in the Bible?

It seems to me that in 1 Samuel xxii, 1, *Adullam* was substituted for *Olam* either by a copyist's error or emendation because he knew that Adullam was not far from Gath, and therefore thought it probable that David went from one to the other. Afterwards the other passages were to agree with 1 Samuel xxii.

It will be observed that I have assumed (1) that David's visit to the cave of Adullam (2 Sam. xxiii, 13) must be one noticed elsewhere in his history, and (2) that no other larger or more suitable cave now exists (known or unknown), or ever did exist, near Bethlehem.

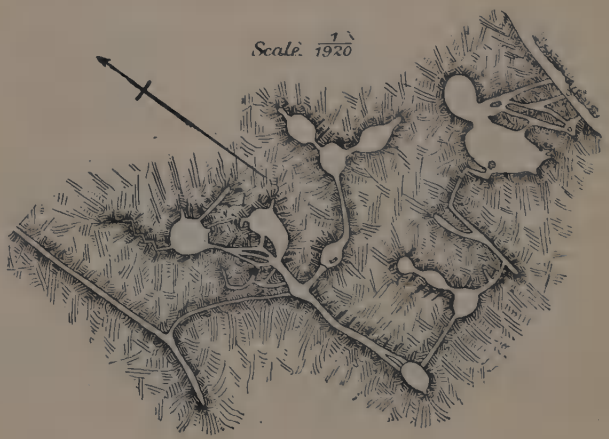
If any one think these assumptions are unsafe, let him, like Goliath, challenge them.

I claim now that after four years (1880, p. 173) I have made out a complete case, and proved that David did not escape to a cave at Adullam, but to the cave of Olam near Jebel Fureidis, *i.e.*, to the cave of Khureitûn, or M'asa.

Still, if Horam (*roi de Guézer*), or any champion of the Adullamites (a most powerful tribe, I admit), desires before parting with the cave which they have usurped for years, to see me face to face in these pages, be it so. I would, however, add one warning: Be content with smiting Moabite pottery, and spoiling Shapira's supple skins; for why shouldest thou meddle with David in his cave? Remember you have far less chance of success than had the son of Kish. You cannot with Saul, threaten, coax, or starve him out; neither can you with Herod hook him, nor with Philip roast him out. As a second Benaiah you must go boldly in and try to drag out Bethlehem's lion by sheer force of argument, at the imminent risk of being yourself thrown headlong into "the dripping well"; for so numerous are the cross passages (1–20) that, in the words of Mr. Drake, "any invader who had succeeded in penetrating the entrance passage would be entirely at the mercy of the defenders."

The cave is thus described by Captain Conder ("Memoirs," Vol. III, p. 375):—

"A ledge of rock, some 6 to 8 feet wide, leads above the Ain in Nâtûf to the entrance of the cave, in front of which are two large blocks of rock, some 7 feet high. The cave has three narrow entrances, with two cross passages, and these lead to a chamber 55 feet diameter and 30 to 40 feet high. The walls are smooth, and seem to have been possibly worn out by water action. It does not appear that any of the excavation is artificial. A very narrow passage leads in irregularly for about 100 feet to a second small chamber, about 10 feet diameter, whence a rude passage runs out for about 25 feet. There is again a passage at a level a few feet higher, leading westwards from the second chamber for 25 feet to a third round chamber, reached by a drop of about 14 feet. Out of the first chamber a passage leads north at a level of some 4 feet above the bottom, and runs about 100 feet north to a large chamber, some 18 feet diameter, from which very narrow passages run out and terminate in the plan. There is a fifth



chamber to the south-east of the fourth, and several ramifying passages. An important branch gallery runs away eastward from the main passage, terminating in three chambers about 10 to 15 feet diameter. Another passage, narrower and at a level higher than that of the main passage, runs north-west for 50 feet, and leads to a gallery running north and south 250 feet long. The greatest length of this curious cavern is 550 feet; the passages are 6 to 10 feet high; the air is dry and good, but the place is full of bats, and the floor entirely covered with thin dung."

See also Warren's account (*Quarterly Statement*, 1869, Letter XXXV, p. 83):—

"We went in search of the passage described by Dr. Tobler, in which he found some sarcophagi and Phœnician inscriptions. Sergeant Birtles and six fellâhs were also of the party, to excavate and examine the bottoms of the large caves.

"We arrived at the cave at 10 A.M.; the Ta'amireh at first objected to our digging, but were soon quieted.

"We went through to the last cave spoken of in Murray's Handbook, whence Tobler's description of the passage begins. On our way we found a passage to the left, half filled with the refuse of bats. After crawling for about 200 feet on our elbows and knees we came to a shaft leading upwards, about 15 feet high; climbing up this we found ourselves in a passage, about 6 feet high, leading north and south: to the north we went perhaps 200 feet, when the passage ends in a cave, from which, after passing a small hole, are many other passages leading in all directions. To the south we went about 100 feet and found some broken stones which had been hewn. Over a little passage to the east we saw a Jerusalem Cross smoked on the wall. Finding the time was passing quickly we returned and followed into the last cave spoken of by Murray. Here in the north-west corner is a small opening, and over it written "No outlet here," and it was in this, as far as we could understand the description, that Tobler had found an outlet. Crawling up this passage we found to be most difficult, and only to be passed in one place by lying on the side and wriggling through. After this there is a small passage for about 30 feet, and then it opens into a passage running north and south, which proved to be the passage we had been in before when we had found the Jerusalem Cross. It will be thus easy at some future period to go up the first passage we explored, and thus miss the very difficult pass from the last cave; but to explore the cavern properly (if it be worth the trouble) people should encamp near the cave for a day or two. Although we got in such a little way we were at work over five hours in the caves.

"There are four large caves; in the fourth and last no excavation was made.

"In the third the rock was found at 2 feet 6 inches. No pottery.

"In the second, after working through a loose brown loam abounding in pottery, a stalagmite floor 3 inches thick was reached, at 4 feet 6 inches; below it for 18 inches was a white dust and then hard rock (melekeh). No bones.

"In the first cave the stalagmite floor was reached at a depth of 7 feet, the white dust between it and the rock having a depth of 15 inches, the 7 feet of loam was full of broken pottery. No bones."

W. F. B.

NOTES ON PRÆ-EXILIC JERUSALEM.

WELCOME to Professor Sayce as a fresh gladiator in the arena of Zionic controversy! Equipped with the latest and best weapons from the East, and unimpeded by old prejudices from the West, he has over already battered antagonists every advantage save one. He can hardly know the ground so well as those who have learnt the slippery places by humiliating falls. Time only can show what success he will have with his strange theories, and whether a ferule can avail against Professor Robertson Smith's new net (*i.e.*, his theory that præ-exilic Jerusalem never occupied the south-western hill) and Mr. Sayce's trident, whose three sharp prongs are (1) that the Siloam Tunnel was made by Solomon, (2) that "the upper pool" was the Pool of Siloam, and (3) that a valley or depression formerly ran from the Tyropœon to the Kidron valley, entering the latter a little above the Virgin's Spring, and that the Temple-hill was the city of Jebus.

I will endeavour to break first the prongs and then the net.

1. (*a*) Professor Sayce thinks (1883, p. 211) that the words in the Siloam Inscription "from the spring to *the* pool" show that at the time this was the only pool existing at Jerusalem. He concludes, therefore, that the tunnel must be earlier than the time of Ahaz, as in his reign there existed an *upper* pool (Isa. vii, 3), which implies that there was also a lower one. I answered that in 2 Kings xx, 20, Hezekiah is said to have made *the* pool, although the upper pool existed in the previous reign. There is no reason why a *the* should imply more when engraved on a *rock* than when written on a *roll*. Professor Sayce, however, maintains that my objection has no force, as "there is all the difference in the world" between the two cases.

I find that scholars from four universities decline to endorse his opinion, and one states that he "does not see in the words 'from the spring to the pool' anything to show that this was the only pool in Jerusalem. As far as the words go, they seem to imply only the spring and the pool with which they were occupied."

Thus the inscription cannot be put in as evidence that the tunnel existed before the time of Hezekiah.

(*b*) Professor Sayce also argues that the tunnel cannot have been made by Hezekiah, because "the waters of Shiloah" (*i.e.*, the conduit) are mentioned previously.

If it has *really* been ascertained that the newly-found aqueduct (1883, pp. 106, 211) does not lead from the Virgin's Fount, then I the more cheerfully own my error, as I can make a better point. I conjecture, with the utmost

confidence, that before the Siloam Tunnel was made, the waters of Gihon (Virgin's Fount) *flowed softly* to Siloam along an aqueduct on the eastern side of Ophel (so called), and that excavation in two or three places will certainly find traces of it. The discovery of such an aqueduct, which obviously would be more ancient than the tunnel, would at once destroy the argument which Mr. Sayce draws from "the waters of Shiloah."

When careful search has failed to find this aqueduct, then I shall be glad to admit the overwhelming weight of (*b*).

(*c*) In opposition to my claim (p. 106) that the tunnel is the work of Hezekiah, referred to in 2 Kings xx, 20, it is added (p. 211): "Moreover, the word translated *conduit* is תעלה, which is not the same as the נקבה, or *tunnel*, of the inscription."

What Mr. Sayce means by this objection I fail to comprehend, as on page 215 he observes, "The upper pool, consequently, must be the Pool of Siloam, and *the conduit the tunnel* which conducts the water into it." If in Isaiah vii, 3 the *conduit* may apply to the tunnel (or נקבה of the inscription), why may not the *conduit* (the same Hebrew word) of 2 Kings xx, 20 also apply to the same tunnel? I claim now to have broken prong 1, or at any rate to have reversed its point.

2. Mr. Sayce further thinks that the (upper) Pool of Siloam must be referred to in the words (Isa. vii, 3) "the conduit of the upper pool, in the highway of the fuller's field." He adds that "the topography of Jerusalem makes it clear that the fuller's field could have been only at the southern entrance into the Tyropœon valley, where water for fulling could be obtained from the Kidron and En-rogel, the modern Bîr Eyyûb, as well as a strip of level ground. This is fully confirmed by the name Enrogel, *the fuller's fountain*." To this I must also object that—

(*a*) Water was at hand elsewhere, near Jerusalem, as Mr. Sayce himself witnesses. On page 214 he puts "the gathering place," or tank, for the water of the old pool near the valley-gate (as marked on his plan). But for a pool to have been "old" in Hezekiah's time, it must at least have existed in that of Ahaz, and it must have been (so far as I can see) further up the valley, *i.e.*, at a higher level than the Pool of Siloam. Thus the south-eastern side of Jerusalem was not the only place for getting water.

Besides this an old aqueduct (*Quarterly Statement*, 1872, p. 48) exists east of the Damascus gate, which must have carried water to (or from) some pool. Thus far north of the Pool of Siloam we have, according to Mr. Sayce, a *pool* and, as discovery has shown, also a *conduit*.

(*b*) The word "field" (*sadeh*) has a wide meaning. It is used for "the open country," in contrast to "the city," and so would be as applicable to the ground near the Damascus gate as to the level ground towards En-rogel.

(*c*) En-rogel strictly means "the spring of the foot," which is not the same as "fuller." As the feet were used in fulling, the Targum explains the name as meaning "the fuller's spring," but another interpretation has been given, and the foot was also used in irrigation. And why should the

occupants of the castle of Zion send their washing all the way to En-rogel, when they could have it done quite as well at home at the Virgin's Fount, like the modern dandy of Kefr Silwân? ("Jer. Rec.," p. 243). Josephus further puts "the fuller's monument" on the east of the Damascus gate.

As, therefore, far north of the Pool of Siloam there was *water*, and a *pool*, and a *conduit*, and a drying *ground*, and a *fuller's* monument, I cannot admit that Mr. Sayce has shown that "the fuller's field adjoined the Bîr Eyyûb," and that "the upper pool, consequently, must be the Pool of Siloam." On the contrary, I have shown that there was a far more suitable spot on the north side of Jerusalem, where Rab-shakeh would be much more likely to deliver his message, instead of down at the south-eastern corner of the city.

Again, according to Mr. Sayce's theory (p. 214), Hezekiah made a tank "for the water of the old pool" in the Tyropœon higher up than the Pool of Siloam, and though he does not state where he thinks "the old pool was," still (as it seems to me) it could not be identical with the Pool of Siloam. As, therefore, we have "the old pool" at a higher level than the Pool of Siloam, the former would more suitably be called the upper pool than the latter. I claim, therefore, to have broken or completely bent prong 2, even if his position for the *tank* be right.

3. Mr. Sayce thinks that there was a valley between the City of David on Ophel (so called), and Mount Moriah, and that on the latter (*i.e.*, the Temple-hill) stood "the city of Jebus." If the German explorers have really ascertained the existence of such a valley across the ridge, and not merely a depression on the backbone of the ridge, as observed by Colonel Warren ("Jer. Rec.," p. 291), then I welcome the discovery as giving the northern limit of the City of David. I observe, however, on page 194, that Captain Conder, who ought to be as well informed on the subject as Mr. Sayce, seems to be strongly opposed to the existence of such a valley. To the second point I would object—

(*a*) That in putting the City of Jebus on Moriah, Mr. Sayce places Araunah's threshing-floor *within* the city, while the custom seems for such spots to have been outside the walls.

(*b*) That while Mr. Sayce, in 2 Samuel v, 8, substitutes "temple" for "house" in Authorised Version, others do not think that the Temple is at all referred to, and Kennicott translates the words, "because the blind and the lame said, He shall not come into the house." Thus I cannot allow that the passage implies that "the Jebusites, whose city was stormed, inhabited the higher Temple-hill."

(*c*) In applying 2 Samuel v, 8 to the city of Jebus, and not to the castle of Zion (1878, p. 130), Mr. Sayce seems to me to have fallen into the popular error which three years ago I found had already been pointed out by "E. F." on "The Book of Psalms." The Biblical account (Sam. and Chron.) speaks only of *one* place being taken (not of *two*, as commonly supposed), viz., the castle of Zion. In 2 Samuel v, 6, the Jebusites, confident in the impregnability of their castle, taunted David. In verse 7 David takes the castle. In verse 8 the sense is clearer if we read "for" instead of

"And." "On that day" I take to mean, not on the day of the assault, but (as the Hebrew narrative frequently goes back) on the day that the Jebusites and the blind and the lame taunted David.

(*d*) As I have pointed out that there is full reason for supposing that Araunah betrayed Zion by helping Joab up "the gutter," or rocky shaft above the Virgin's Fount, I cannot admit that his threshing-floor on Moriah allows us to infer that the Jebusites still continued to live on the higher hill of Moriah (p. 214), or, indeed, that they ever lived there at all.

Thus I claimed to have turned the point of prong 3, and the trident becomes a useless weapon.

It still remains for me to break the net. I am glad to agree with Professors Robertson Smith and Sayce that Zion was solely on Ophel (so called), and that the Tyropœon was the Valley of Hinnom ; only I take the former to have been merely a part of the latter, and the latter to have reached towards the Jaffa gate, and not northwards towards the Damascus gate. I cannot, however, admit that præ-exilic Jerusalem did not occupy the upper hill of Josephus. Professor Robertson Smith's arguments for his theory (those of Professor Sayce I do not find) are given in the "Encyclopædia Britannica," under *Jerusalem*, to the following effect :—

(1) If the upper city was enclosed by Nehemiah, then no account is given of the defences for nearly half a mile, from the dung-gate (near the Protestant school) to the fountain-gate, near Siloam. But I have pointed out the reason in *Quarterly Statement*, 1879, p. 178. As no one would ever think of attacking Jerusalem on this south side, it would have been labour lost here to throw down its fortifications. Perhaps, too, the rock was scarped to a great height.

(2) He urges that Nehemiah implies that the fountain-gate was near the dung-gate, and that in chapter xii the procession which went to the dung-gate is immediately afterwards found at the fountain-gate. But I cannot admit that "Then I went on to the gate of the fountain" (ii, 14) implies that it was *near* the dung-gate ; I should rather say the reverse, and next, as there seems to have been no gate between the two, it is difficult to see why anything should be mentioned between them.

(3) He says, "It is hardly possible that so important a part of the circuit should be twice omitted, and the vast lacuna disappears at once if we suppose that the upper city of Josephus was not enclosed by Nehemiah." But if the western wall was so slightly injured that one party (iii, 13) could repair the valley-gate and *a thousand cubits* on the wall to the dung-gate," it is very likely that the still more strongly situated southern wall would need no repairs, and therefore would not be mentioned in either case.

(4) It would have been folly in Nehemiah to enclose a much vaster or less defensible circuit, when the inhabitants were so few that it was necessary to draft a tenth of the whole people into the capital" (Neh. xi, 1). But it seems to me that it would have been far greater folly in Nehemiah if he had not built the city on the line of the old wall, when he had the authority for so doing; and as for the vast area, it agrees exactly with the

Biblical notice (vii, 4): "Now the city was large and great; but the people were few therein, and the houses were not builded."

(5) Once more, by placing the valley-gate quite near the Temple we understand how it was in this neighbourhood that the second procession in Nehemiah began its course. The "how" is not clear to me, but I do see that in such a case one party must have marched a very much longer distance than the other, which seems to me an improbable arrangement.

(6) When Professor Sayce excludes the upper hill from præ-exilic Jerusalem, he has also to face the arguments about the area of the Holy City which Captain Conder has erroneously urged against me (p. 195).

(7) He has also to account for the meaning of the old arch anterior to, but on the line of, Robinson's arch, and to explain why it should have been erected at a point far outside the walls of his Jerusalem ("Jer. Rec.," p. 110).

Having answered all the arguments offered on this point, I claim that Nehemiah enclosed the upper city.

Therefore the net also is broken, and as the trident is useless, it is now open to me to turn *secutor* and pursue my antagonist to the very gates of Jerusalem.

"The gate of Ephraim"="the gate of the Potteries," according to Professor Sayce's plan; but on page 218 he says, "the gate of the potteries seems to be the valley-gate," and on his plan "the valley-gate" is placed at the western exit of the (supposed?) valley which separated Zion from Moriah; and lastly, on page 218 it is said that "the fish-gate was at the western exit of the (same) valley." Surely some explanation is needed here, as, according to Nehemiah iii and xii, the Fish, Ephraim, and Valley gates were three distinct gates.

On page 214 Mr. Sayce says that here "through the gate between the two walls (probably the potteries' gate) Zedekiah fled along the valley of the son of Hinnom . . . past Enrogel and Marsaba" (!). Surely when "the Chaldæans were by the city round about," it is incredible that the Jewish king would begin his flight by half a mile's pleasure trip outside the city walls under the nose of the enemy posted (according to Mr. Sayce) on the upper hill; and next, that he should go past Marsaba, miles out of his way, is still more startling. Here the *retiarius* seems to get entangled in his own net, and to be caught romancing by the *mirmillo*. For what is the authority for this last statement? Not the Bible nor Josephus. If my old friend Herodotus, I will believe it; but it looks more like a dragoman's answer to a leading question. Perhaps Mr. Sayce did not revise his papers.

But I see the *Editor's* thumb is coming down, so I must be quick with one more blow, or my pet theory will go unavenged.

Of my lucubrations on Jerusalem the one that would most interest the general reader, I take to be that which shows that the shaft discovered by Colonel Warren at the Virgin's Fount was the scene of Araunah's treachery in connection with Joab's ascent of "the gutter." And now Mr. Sayce (p. 211) says that the rock-cut shaft and passages are of "later" date than

the Siloam Tunnel, and were made by Hezekiah. Thus in self-defence I must offer the most uncompromising resistance to his *dictum*, as I had rather lose all the points named above than this last one by itself.

(*a*) Colonel Warren's plan (No. 18) states that the passage to the vertical shaft is in a line with that from the Virgin's Fount, while the tunnel to Siloam is marked as turning off at an angle. From this he concludes that the passage to the shaft was made before the tunnel.

(*b*) Mr. Sayce (p. 211) says, "This second tunnel—*i.e.*, the one to the vertical shaft (or *A*)—is in connection with the Siloam one, a perpendicular shaft (or *B*), descending to the latter below the vaulted chamber, and appears therefore to be of later origin." Here he is under some misapprehension; as *A*, which descends to the water, is *not* under the vaulted chamber, and *B*, which is so, was found partly filled up and was never explored.

Colonel Warren, however, conjectures that as the rock-cut passages and *A* would be inconvenient for drawing water, at some later date *B* was excavated to the level of the water in the Siloam Tunnel, though it does not seem actually to descend into it. *B*, no doubt, is later than either the Siloam Tunnel or *A*, but this does not at all prove that *A* is of later date than the Siloam Tunnel itself.

(*c*) Mr. Sayce appears to think that Solomon made the Siloam Tunnel in order that his capital might not have to depend upon rain-water in time of siege. It is, however, not complimentary to his surpassing wisdom to maintain that he executed a work of such enormous magnitude merely for such a reason, when Colonel Warren's shaft and passages would attain the same result with a mere fraction of the labour. The object of the tunnel was rather to deprive the enemy of the use of the overflow of the waters from the Virgin's Fount.

I maintain that the shaft *A* was used by the Jebusites, and (*a*) alone proves that it was older than the Siloam Tunnel. And even if it can be shown that the latter is of Solomonic date, it only helps to prove the point I value most.

W. F. Birch.

THE WATERS OF SHILOAH (OR THE AQUEDUCT) THAT GO SOFTLY.

Isaiah viii, 6.

It seems to me as certain as any point not yet ascertained to be a fact can be said to be certain, that these waters flowed from the Virgin's Fount along an aqueduct (cut in the rock) on the eastern side of Ophel (so called) southward to the entrance of the Tyropœon. Little or no fall would cause the water to flow (or go) *softly*. Therefore, as the present level of the Virgin's Fountain is 2,087 feet, we may expect the waters, before the Siloam Tunnel was made, to have flowed at about the same level.

It seems probable, therefore, that if the side of Ophel was bared to the natural rock between the Virgin's Fount and the entrance to the Tyropœon valley, traces of the above-named aqueduct would be discovered at a level of about 2,087 feet, but the search ought to be extended from about 2,080 feet to 2,090 feet. Probably the aqueduct would be a narrow trench a foot or two broad, cut in the rock perhaps 3 feet deep, and covered over with slabs of stone.[1] As possibly the aqueduct might in some places be destroyed when it fell into disuse on the completion of the Siloam Tunnel, it is quite possible that in searching for the aqueduct, the exploring party might excavate at some of these places, so that if no result attended the first attempt, a second or even a third ought to be made at some other part of its course.

Thrupp's opinion that the waters of Shiloah represented *the line or house of David* has for five years commended itself to me.

I believe he thought that they were brought by an aqueduct from Bethlehem. When it became clear to me that the City of David was on Ophel (so called), and that the Virgin's Fount was the ancient draw-well of Zion, by means of the subterranean passage and shaft discovered by Colonel Warren, it seemed to me that the fittest explanation was that the waters from the Virgin's Fountain were the waters of Shiloah, though I did not see how, in the time of Ahaz (for I believed and believe the Siloam Tunnel was made by Hezekiah), these waters from the Virgin's Fount could have given the name of Siloah to a spot near the present 'Ain Silwân. Professor Sayce thinks that the waters from the Virgin's Fount flowing along the Siloam Tunnel thereby got the name of *Shiloah* from the *tunnel* or *aqueduct*, and so was given to the pool the name of Siloah or Siloam. Therefore, he argues, the tunnel existed in the time of Ahaz, and must have been made by Solomon as the only probable author of waterworks before Hezekiah.

The discovery of another aqueduct, which it was supposed brought water *directly* to the lower Pool of Siloam, *i.e.*, without passing through the upper Pool of Siloam, suggested to me what I believe is the true explanation of the difficulty. Even if it has been proved or could be proved that this new aqueduct only led from the upper Pool of Siloam, still this circumstance would not alter my opinion as to the true explanation.

The following considerations influence me in this conclusion :—

[1] As the aqueduct would be made only for irrigation, not from military considerations, it is unlikely that it should have been tunnelled through the rock instead of merely a channel being cut in the rock. This latter at that time could be made with little expense and in a short time, as many could work at it together. If there were no such aqueduct as I suppose, then it seems to me inevitable that the Siloam Tunnel was made by Solomon; but this seems to me so utterly out of the question that (though I am aware it is better not to prophesy until you know) I wish to prophesy that the aqueduct will be found if looked for carefully.

1. It is reasonable to apply Shiloah, Siloah, and Siloam to one spot, *i.e.*, the part of the Tyropœon near 'Ain Silwân, and not to different places.

2. The waters of Shiloah must, somehow or other, have come from the Virgin's Fount.

3. But they could only be brought down by some aqueduct to the southern end of the Tyropœon.

4. They could not have flowed down the Siloam Tunnel, as the date of that seems (to me) to have been the time of Hezekiah, and the waters of Shiloah are named previously in the time of Ahaz.

5. Therefore the only explanation available is that there was an aqueduct from the Virgin's Fountain along the eastern side of Ophel to the mouth of the Tyropœon.

6. If the aqueduct was made with but little fall, the waters would go or flow *softly*.

7. If it is urged that there may have been an aqueduct down the Tyropœon, one would reply, Where would a better source of water than the Virgin's Fount be found? and next, the fall down the Tyropœon would be such that the waters could hardly be said to go *softly*, but rather swiftly.

8. I believe the aqueduct supposed to exist in (5) was made by Solomon to irrigate the lower part of the Tyropœon (south of the 'Ain Silwân), *i.e.*, the King's gardens. It seems to me reasonable to think he would make some such use of the superfluous waters of the Virgin's Fount, instead of letting them run to waste through the soil of the Kedron Valley.

I would therefore put before the Executive Committee of the Palestine Exploration Fund a proposal that search should be made for this aqueduct.

Its discovery would result in clearing up certain points.

(*a*) It would be a point gained to know that such an aqueduct existed.

(*b*) What is meant by the waters of Shiloah would be clear.

(*c*) There would not any longer be any room whatever for two opinions about the date of the Siloam Tunnel.

(*d*) I would add, from my own point of view, that a stimulus would be given to making further excavations at Jerusalem.

I trust, therefore, that the Committee will not put this question aside as an unlearned, or at any rate groundless, speculation.

W. F. Birch.

Manchester,
November 5th, 1883.

THE CITY OF DAVID AND JOSEPHUS.

Some of Captain Conder's remarks on p. 194 call for notice.

The Garrison.—As he objects to my words on this subject, I would add that Patrick, on Judges ix, 6, observes: "And after all it must be confessed

that the *Hebrew* word *Matzab* doth not certainly signify a *pillar*, for I cannot find it so used in any other place of Scripture." How then am I wrong in saying that *Matzab* never means a *pillar*, and that it is an entire mistake to say it is rendered *pillar* in other passages? Judges ix, 6, is one; but where is the second passage? His favourite authority on 1 Samuel xiii, 3, mentions a garrison, not a *pillar*, so that it is *my* turn now to ask, "Is this another false statement of Josephus?"

The fact is, Josephus is a most uncertain foundation on which to build. Even in cases where he can say *quorum pars magna fui* he sometimes is *startling* rather than *accurate*. Who would not like to see the stone that at Jotapata knocked off a man's head and sent it *three* furlongs? The Jews might indeed have called that a *sacred* stone. The proposal to convert the *two* garrisons which, according to the Bible and Josephus, Jonathan smote into *one* and the same sacred *stone*, upset first at Geba and then on Bozez, I still claim to describe fairly as "an *idol* fancy." Jonathan commanded a division and was no contemptible (2 Sam. i, 21) foe. Would Captain Conder, with a thousand men, himself prefer shattering a *stone* column of the enemy to a living one? Why then make a warrior like Jonathan into an iconoclast? On page 150 *seven* should be *six*.

The Nameless City.—I regret that Captain Conder and others should be in doubt as to what I think the true site. See, however, *Quarterly Statement*, 1883, page 49, line 7, and page 51, line 38.

The Tomb of the Kings.—I need hardly repeat that Captain Conder said "it is a *fact*" (not a conjecture of his) that the tomb of Nicodemus is this tomb. He says of me that I have been "equally confident" that I knew "the exact place of the tombs of the Kings, on more than one occasion, but in very different situations." Can he point out the passages in these pages on which he grounds this statement? Is *equal confidence* shown by the *if* in *Quarterly Statement*, 1877, page 200, line 42, or by the *seven points* distinctly said to be *assumed* in 1881, page 97, 99, or in the position given in 1883, page 155, "an *area* of 450 *feet long by* 50 *feet broad?*" And is this description, or even *the less than forty yards* of 1880, page 170, at all to be compared to the precision of Captain Conder's site, viz., *the tomb of Nicodemus?*

I only refer to this point because I hope the Committee will be led to excavate specially for the Tomb of David. But how can this be until a site has been named of reasonable area, which can both stand against all adverse criticism and also have reasonable probability in its favour?

For Captain Conder, and others who have sought after Zion, to rally me on my failures or attempts is rash, as I can easily retort with crushing effect as follows.

True, I have been groping for six years on Ophel, so called—"an area of 10 or 15 acres"—for the entrance to the Tomb of David, *i.e.*, for a hole about 2 feet square, and buried some feet under the surface.

But others have also for years been running all about Jerusalem and looking everywhere for Zion except in the right place: one put the City of David on the Upper Hill, another at Antonia, another near the Holy

Sepulchre, another just east of it, another of larger ideas thought that the whole of Jerusalem formed the City of David. They have been wandering all over the 300 acres, minus my 15, and you have not yet found, and never will find, in all that area, either the door of David's tomb or the famous City of David, an object a few ten thousand times larger than what I have been seeking for.

Ophel (so called).—On page 194, 1883, Captain Conder speaks of this as "*a hill* which was only walled in by later kings;" but six lines after he finds fault with me for speaking wrongly of the same spot as "the hill" on the south of the Temple. I suppose he must have changed his mind in six lines. In exposing what I consider his radical errors about Jerusalem, I pointed out (1881, p. 97) what was apparently the position of Ophel. I can hardly blame him for not answering in detail the arguments given in *Quarterly Statement*, 1881, pp. 94–97, and 1883, pp. 152–154, as they are simply unanswerable. I hope, however, that he or any one else who dissents from my view will try to answer them.

The old wall.—Captain Conder, after observing that Josephus says, "The old wall built by David and Solomon began on the north at Hippicus," asks, "Is this another false statement?" I am not aware of having alluded to this statement, yet I think Josephus is very near the truth. I would observe, however, that Josephus goes on to add that the same old wall passing above Siloam reached as far as Ophel, where it was joined to the eastern cloister of the Temple. Captain Conder will, I suppose, admit that the part of the wall from Siloam to this south-east corner was on Ophel so called, and his favourite authority further gives it as part of *the old wall*. And yet (*mirabile dictu*) only two lines after, Captain Conder describes the very site of this part of the wall as "a hill which was only walled in by later kings." Thus he himself actually rejects the very description of Josephus about which two lines before he asked me, "Is this another false statement?" He says, "We" (*I* decline to be among the *we*) "are obliged to rely mainly on Josephus," and accordingly he will not allow me (if I wished) to say that the *beginning* of a statement of Josephus is false, while he himself, by his own *ipse dixit*, rejects the *end* of it as false.

The area of the City of David.—When I speak about *Zion, the City of David*, Captain Conder appals me with the area of *Jerusalem*. But the size of the former had no more to do with that of the latter, than the area of the Tower of London with that of the City of London. I have again and again shown that *Jerusalem* and *the City of David* (*i.e., Zion*) are not in the historical passages of the Bible identical. (See 1878, p. 183; 1880, p. 167; 1881, p. 97.)

Josephus, I am well aware, makes them the same, but the Bible does not; and who that cares for accuracy will believe what Josephus says, when he does not agree with the Bible? In this book of truth the line of distinction between Jerusalem and the City of David is sharply drawn. Of one or another king it is said quite twenty times, in the Kings and Chronicles, that he reigned in Jerusalem and was buried in the City of David. Surely

if the two terms meant just the same thing we should have had some instance of a king *reigning in the City of David.* Of Amaziah it is written (2 Kings xiv, 20), "He was buried *at Jerusalem* with his fathers *in the City of David.*" Why add the latter words if the two places were identical?

And now, having disposed of all objections, let me loose a Parthian shaft. I have given arguments for the Valley of Hinnom, Zion, and Acra, which none can answer, and (if they are discreet) will not try to answer.

For five years I have been urging that the Tyropœon was (part of) the Valley of Hinnom, and that the City of David was solely on Ophel so called.

Enough for me now (further success I leave to others) to have got the thin end of the wedge into the Jerusalem error. That it is being driven home can hardly be denied, when while Captain Conder, on page 194, seeks to scare me with terrible conclusions that do not follow from my premises, independent critics are found maintaining the view I hold.

On pp. 213, 215, Professor Sayce says: "The key to the whole position is the *fact* that the south-eastern hill, the so-called Ophel, represents Zion, the City of David. This *fact* once granted—and it is now no longer possible to deny it—&c."

Again, Professor Robertson Smith, in the "Encyclopædia Britannica," on Jerusalem, observes: "A third view places the City of David on the southern part of the Temple-hill, and this opinion is not only confirmed by the oldest post-Biblical traditions, but is the only view that does justice to the language of the Old Testament." I commend these two statements to Captain Conder's calm consideration.

Therefore to Zion's enemies, whose name is *legion*, I shout, Come on! You cannot get over the Biblical evidence. If *I* never strike another blow, the two Professors will "hold the bridge," and save the City of David from desolation.

I heartily agree with these two on the two points discussed, though I cannot at present go with them in the opinion that the Upper City of Josephus never formed part of fortified Jerusalem till after the time of Nehemiah. If I leave their theory in peace, a slow pen and doubtful leisure must bear the blame. I must make the same plea if I do not try to show in these pages that—

(1) Gibeah of Saul was at Kh. Adasah.

(2) The Cave of Adullam is the Cave of Khureitun.

(3) The perpendicular shaft at the Virgin's Fountain is "the Gutter" of 2 Samuel v, 8, though attributed to Hezekiah by all, I believe, except myself (1878, p. 184).

(4) The Tomb of David (so far as I can discover) was in the position given in *Quarterly Statement*, 1883, p. 155.

I am glad to see an anonymous critic in *The Builder* (p. 545) coming to the aid of Captain Conder. This knight of the paper visor charges down upon my theory, confident of its destruction, and hopeful that the Fund will bury it by henceforth excluding from its pages "old unlearned speculations."

I pause not to discuss whether my theory is *old* or not, for I would rather at once cut his girth, and let him topple over.

This writer has a profound contempt of what I advance as "my arguments" for the true position of *Zion*. Accordingly, instead of labouring to meet them, he prefers re-echoing Captain Conder's declamation about the acres of *Jerusalem*.

"Great is Josephus!" cries the one; "Great is Josephus!" answers the other, and, as this historian says David called Jerusalem the City of David, it is vain for me, in a feeble tone, to interpose again and again that the City of David was only part of Jerusalem. I have doubted Josephus (a thing which Captain Conder does whenever it suits him). Therefore, I am to be overwhelmed with alternative billows of indignation and pity, on the ungrounded charge of having made Jerusalem no bigger than a hamlet. In vain from time to time I have taken pains to explain that the City of David stood only on Ophel (so called), and that Jerusalem and the City of David are not convertible terms (1883, p. 154). But what do these two writers? Instead of trying to show that the places were one and the same, Captain Conder begins by speaking of the City of David, and then, with charming simplicity (I should say *adroitness*, only I think he is unconscious of his own legerdemain), he slips in (p. 195) *Jerusalem*, instead of the City of David, in the words, "But Mr. Birch's *Jerusalem*, or City of David, is only 10 or 15 acres in area." After this, and tossing in *Moriah* (!) with a sort of *væ victis*, Captain Conder triumphantly shows that my statement, as doctored by him, is wrong; while the other returns after him only to spoil, and finds out that the Jews would have to occupy just one square yard apiece.

In 1878, p. 180, I made the following suggestion:—"Gennath = (?) Gehennath Gate = Gate of the Valley of Hinnom = Valley Gate (2 Chron. xxvi, 9; Neh. ii, 13; iii, 13)." Captain Conder borrowed this conjecture from me (I am not aware that I borrowed it from any one), and further, he did me the honour of putting it both in his plan and on p. 349 in the "Handbook" (1879), and there it remains to this day. Again, in 1879, I occupied three pages in tracing the general outline of Nehemiah's Jerusalem, referring to (if not inserting) his plan of 1877, and actually making my Jerusalem *larger* than his within the first and second walls of Josephus.

But now (oddly enough), in 1883, Captain Conder has quite forgotten his debt to me, and mine to him. He even ignores his own "Handbook," whose pages witness that my Jerusalem was no "hamlet" of "10 or 15 acres;" but occupied as great an area as his own.

Surely when the builder-on-sand critic tries to entice the Committee to cast me out, I may claim, by my appeal to the "Handbook," to have unhorsed Don Quixote. Why ever will some persons persist in advocating a *lost* cause?

I have to thank Mr. Besant for an admirable illustration, which I doubt not will make more converts than can pages of the closest argument. He says, "Did you ever see Old Sarum? It contained a cathedral with a

monastery, a castle, and a town; all within a space large enough for a London square garden." The fortress of the Jebusites, *i.e.*, Zion, or the City of David, was just a place of this kind.

The cathedral	answers to the	tent pitched for the Ark.
„ monastery	„	houses for Obed-edom, &c.
„ castle	„	David's house.
„ rest of the town	„	the quarters of the *Gibborim* and other dwellings.
„ churchyard	„	the Sepulchres of David.

That "a city" was not necessarily a large place seems clear from 2 Kings x, 25, where "the city of the house of Baal" appears to describe the dwelling-place of Baal's priests.

W. F. Birch.

November 2nd, 1883.

HEBREW INSCRIPTIONS.

In connection with the article on Hebrew inscriptions, which I have read with deep interest in the *Quarterly Statement* of last October, may I hope that you will allow me to throw out a suggestion concerning another matter which I believe to be of great importance? In Jewish books we often meet with a contraction of the two letters אל, thus ל, which is not used in printing the Bible. The origin of this contraction has, so far as I know, never been investigated. Yet it is easily seen that if it was used by copyists of the Bible in early times, it was likely to have been a fruitful cause of very great mistakes. Hence, whilst students and explorers have their attention directed to the alphabets, I think it a good opportunity that they be requested, in the interest of textual criticism, as well as for other important purposes, to see also how far back they can discover this contraction to have existed. I believe I can see traces of it in the Septuagint in the following names:—

(1) Ιεμουηλ for חמול (Hamuel), Genesis xlvi, 12, and 1 Chronicles ii, 5. Any one studying the names of the Septuagint will know that ηλ, with another vowel before it at the end of a word, stands always for the Hebrew אל. See Ισραηλ, Σαμουηλ, φανουηλ, for פנואל, שמואל, ישראל. If there is no vowel before ηλ, it may represent only a ל with the vowel *Tsere* before it, as Εσηλ for אָצֵל, Γαδηλ for גְּדֵל. If, then, we have here this termination standing for a ל only, what more likely than that the Seventy read the abbreviation ל, instead of the ל, especially as the name חמואל (Hamuel) also exists in 1 Chronicles iv, 26, and is rendered Αμουηλ?

(2) Another name in which a final ל seems similarly to have been taken for נ, is במהל ; 1 Chronicles vii, 33 rendered Βαμαηλ.

(3) Another name with ע mistaken for נ, is ירחע (Jarha), 1 Chronicles ii, 34, 35, rendered Ιωχηλ, which should be Ιορχηλ, because ω is often a corruption of two letters which in the Uncial alphabet have some roundness about them.

(4) Then we have, 1 Chronicles v, 32, 37, Μαριηλ for מרות, which seems to show that their contraction was sometimes written thus, אל.

(5) It is also well known that names beginning with אל in Hebrew have Ελ in Greek. Hence, 1 Chronicles xv, 18, και Ελιωηλ for ועני (and Unni), shows that they read ואלני, and rendered it και Ελιωναι, a name of frequent occurrence, and occasionally corrupted in the Septuagint. Here it is corrupted into Ελιωηλ, for η is often interchanged with ν, and λ with α. (See Appendix I in my "Scripture Onomatology.")

In all these passages, whether the contraction really existed in the Hebrew, or was only imagined to exist, the proof that the translators were acquainted with it is the same.

(6.) The final and superfluous ηλ of the last word in 1 Chronicles xii, 5, Χαραιδιηλ for חריפי (Haruphite), I believe proves the same in a different way. It does not occupy the place of other letters, but evidently represents a mistaken repetition of the אל of the first word of the next verse, אלקנה, rendered Ελκανα. But such repetitions between two words following each other, though very frequent with single letters, occur very seldom if ever with two or more consecutive letters. Therefore the first cause of the above mistake must have been the אל having been written in a contracted form in their copy.

E. Flecker.

THE SITE OF EMMAUS.

The identification of *Urtâs* with Emmaus is one of the most interesting discoveries recently made in Palestine. It is remarkable that the scene of our Savour's journey with His two disciples on the day on which He rose from the dead should have remained unknown for nearly two thousand years, though extending only to a short distance of seven and a half miles from Jerusalem. It is evident that the locality was not meant to remain concealed, for Luke gives the name of the village to which the Lord and His disciples went, and also its distance from the city—both of which are also given by Josephus, the Jewish historian. In the *Quarterly Statement* for January last year Mrs. Finn has furnished the most conclusive evidence in favour of *Urtâs*, and excluded all other claims. When her home was in the Holy Land she visited every valley within the circuit of sixty furlongs from

Jerusalem, but found none with a sufficient supply of water for the baths mentioned by Josephus, except the valley of Etham, in which is the pretty village of *Urtâs*, a little to the south of Bethlehem. At length excavations were made on the spot, and in these she had the valuable aid of Mr. Cyril Graham; and among the ruins were discovered the walls of the fortification which had been built most probably by the Roman soldiers to whom, Josephus says, the Emperor Vespasian granted the place. Baths too were discovered, and the name *Hammâm*, signifying baths, was found to be preserved among the *Fellahin* of the locality—a name which corresponds to the Hebrew Hammath and the Greek Emmaus. The name *Urtâs* is evidently a corruption of *Hortus*—a name which the Roman soldiers gave to the place from the gardens of Solomon, which were in this locality. Similar changes of names we have in Nablous for Neapolis, and Jaffa for Joppa.

The evidence in favour of *Urtâs* as the true Emmaus appears to me to be complete, no link in the chain being wanting; and had I known the story of this discovery three years ago, this knowledge would have materially enhanced the interest with which I made the journey from Jerusalem to *Urtâs*. Mrs. Finn deserves great credit for the indomitable perseverance with which she prosecuted her inquiry for ten years, and for the clear statement of the details by which her identification of the site has been fully established.

It is somewhat disappointing, however, to find that Dr. Edersheim, in his elaborate and meritorious work on the "Life and Times of Jesus the Messiah," gives a very imperfect account of Mrs. Finn's discovery, and refuses to accept of *Urtâs* as the true site of Emmaus. His objection is, that the baths at *Urtâs* were not filled by hot springs, but only by water artificially heated; and he seems to think that this objection sets aside the whole evidence in favour of the discovery. In a volcanic country like Palestine the hot springs of one period may afterwards have become cold; but there is a well-known hot spring near the shore of the Sea of Galilee and there may have been one, two thousand years ago, in the valley of Etham. Besides, hot springs are not necessary in order to having warm baths; and it is well known that the Romans had artificial hot baths in their bathing establishments. The name Emmaus does not signify hot springs, but warm baths, which might be obtained either by natural or artificial means.

Dr. Edersheim contends for *Beit Mizza* as the site of Emmaus—a contention for which there seems to me not the shadow of evidence, but, on the contrary, insuperable objections. As he objects to *Urtâs* on the ground that there are no hot springs for baths there, his readers might at first suppose that he must have found such springs at *Beit Mizza;* but he finds no hot springs there, and no baths, either hot or cold! He ought to have been sure that the necessary springs are there, before adducing their absence as an insuperable objection in another case. If their absence is good against *Urtâs*, it is equally good against *Beit Mizza*. But it is a fatal objection to his foundling, that the place is only about four miles from Jerusalem—as he will see by consulting No. 17 of the large Map of the Exploration Fund. As

the crow flies, it is about the same distance from Jerusalem as *Kolonieh*, and it is only a mile distant from the latter place. Dr. Edersheim has been misled by a writer in the *Quarterly Statement* for 1881 (p. 237); but the supposed discovery is a pure fiction, with not one good argument in its favour. In all probability the original writer has abandoned it after seeing Mrs. Finn's conclusive paper. But Dr. Edersheim had written a description of our Saviour's journey under a certain supposition regarding the *terminus ad quem;* and when Mrs. Finn's paper informed him that he ought to turn from the city to the south instead of the north-west, he might have yielded by cancelling a page of his book, and substituting Mrs. Finn's delightful narrative. But he lost his opportunity and still asserts, "I regard *Beit Mizza* as the real Emmaus." Let the reader compare with Dr. Edersheim's note the summary we have given of the evidence in support of Mrs. Finn's discovery, or, what is better still, her whole paper in the January number of the *Quarterly Statement*, and we are persuaded that the comparison will lead to the conviction that now at last in *Urtâs* we have found the true Emmaus.

P. Mearns.

Coldstream.

TWO INSCRIPTIONS OF KING NEBUCHADNEZZAR ON LEBANON.

(*Reprinted from the "Times" of December 29th*, 1883.)

Fortunately, from time to time some consoling genuine discovery is made to compensate us for the too frequent vexation caused us by the Syrian forgers. Here is one quite recent, which the readers of the *Times* will have the pleasure of being the first to become acquainted with, and which they may, I can guarantee, accept with entire confidence. It has been communicated only some hours since to the Académie des Inscriptions et Belles Lettres, by one of its most distinguished members, M. Barbier de Meynard, the well-known Orientalist. I am able to give a substantial account of it after the original documents, which have been placed at my disposal.

The matter is two large unknown inscriptions of Nebuchadnezzar, found on Lebanon by M. Pognon, Assistant-Consul of the French Republic at Beyrout. It must be confessed that such a discovery could not have fallen into better hands. M. Pognon is a young Assyriologist, who has already given proof of his capacity by some excellent publications, such as that of the "Inscription of Bavian." He is one of the most brilliant scholars of the École des Hautes Études, where I have had personally the opportunity of appreciating his worth, when he attended my lectures upon Oriental archæology. One cannot but congratulate him upon the good fortune which has fallen to his lot, and of which he is in every way

deserving. These texts are engraved on the rock, in the Wadi-Brissa, one of the wildest valleys on the eastern slope of Lebanon, about two hours from Hermel, a village situated near the Orontes, and well known by a curious Phœnician or Syrian monument, which has often been described. The two inscriptions are placed opposite to each other on the right and left of the pathway occupying the hollow of the valley. They measure about 5 mètres 50 in breadth by 2 mètres 80 in height. They are written, the one in archaic and the other in cursive cuneiform characters, forming a whole of 19 columns. Each one is accompanied by a *basso-rilievo*. That of the first inscription represents a personage with the Assyrian tiara as head-dress, turned towards the left, and seizing an animal standing erect on its hind legs, possibly a lion. Behind this personage there must have been the image of a divinity; it has completely disappeared, but one can still read underneath :—

"To the goddess . . . . . .
"Who exalts . . . . . .
"Who inhabits the temple of Goula, the temple. . . . .
". . . . . .
". . . . . .

The *basso-rilievo* of the second inscription represents a man in adoration before a tree with a rather curiously-shaped pointed cap on his head, somewhat similar to the mitre, closed at the top, which is worn now-a-days by bishops.

The two inscriptions each contain a different text. They commence by the titles of Nebuchadnezzar :—"Nebuchadnezzar, King of Babylon, the Illustrious Pastor, the servant of Merodak, the great Lord, his Creator, and of Nebo, his illustrious son, whom his Royalty loves."

Unluckily the two inscriptions do not comprise any historical passage. The king merely gives an account of the buildings he is having constructed in Babylon. A great number of passages are reproduced, with different readings of more or less importance, in texts already known. Especially may one read, in the fourth column of the inscription written in cursive characters, in a phrase which is by mishap mutilated, the enumeration of the wines figuring on the table of the god Merodak and of the goddess Zarpanit, which enumeration is already to be found on the cylinder of Phillips. However that may be, these two texts, as comprehensive as neatly engraved, would be of great value if they were not in a deplorable state of obliteration. The lower part of one of the two inscriptions and the middle of the other have entirely disappeared, and that which remains is much damaged. Some nomadic Metualis have asserted to M. Pognon that less than ten years ago, a Moghrabi, passing through Hermel, had the inscriptions shown to him, and had cut through the rock, hoping to find a treasure. This tradition seems very credible, for the stone has been cut away to the depth of several centimètres with an iron instrument. There may still be found on the ground some broken fragments of the *basso-rilieva*, proving that the mutilation of the monument is quite recent.

Do the inscriptions of Wadi-Brissa indicate the place where the armies of Nebuchadnezzar passed? M. Pognon does not think so. He is rather of opinion that these texts mark the site of a timber-yard, where trees were cut to be sent to Babylon. The name of Lebanon is repeated several times in mutilated sentences, where it is a question as to the wood employed in Nebuchadnezzar's buildings. The absence of all historical indication would be inexplicable if the inscriptions had been engraved in commemoration of the passage of the armies of the Babylonian conqueror.

M. Pognon has taken squeezes of the two inscriptions, and will publish them shortly. It is very desirable that at least photographs of them should be executed, and mouldings taken, before the originals, already so seriously injured and exposed to the vandalism of the natives, have suffered new and irretrievable harm. The treasure-seekers are, in fact, one of the scourges of antiquities in Syria. I know it from personal experience, and I have often, alas! found too visible traces of their manner of investigating the ancient monuments. Some day I will give a few curious details on this subject. I will now only incidentally remark that the archæologist can occasionally turn to account this kind of Arab lunatics, devoured by their thirst after gold.

The supposition of M. Bognon on the general purport of these two texts becomes very probable if one compares it with certain facts more or less known, which I will allow myself to point out or to recall.

In the first place, we are aware, from the other inscriptions of Nebuchadnezzar which have reached us, that the great King of Babylon employed a considerable quantity of wood for his sumptuous building of temples and palaces. In one of these inscriptions, preserved in the British Museum, he even says expressly "that he has employed for the woodwork of the Chamber of Oracles the largest of the trees which he has had conveyed from Mount Lebanon."

At all times, moreover, Lebanon appears to us as an inexhaustible source of building timber. Every one remembers the timber—cedar and fir—cut in Lebanon and sent by Hiram, King of Tyre, to David and to Solomon for the construction of the Temple and the Royal Palace at Jerusalem.

The prophets show us, on different occasions, the forests of fir trees covering the slopes of this celebrated mountain as the "Glory (*Kabod*) of Lebanon." It is from Lebanon that the Phœnicians, and after them the conquerors of Syria, obtained the materials for their naval constructions. Lebanon, which had in this respect furnished precious resources to Alexander and his successors, played the same part until the Roman epoch. All that part of High Lebanon comprised between Sannin and the Pass of the Cedars, in the middle region of Toula, as far as Semar Jebeil, is still covered with hundreds of Latin inscriptions, engraved on the rock, and reserving for the State, as M. Renan has shown perfectly, in the name of the Emperor Hadrian, the four species of trees necessary, according to Vegetius, for the requirements of the Imperial fleets—the pine, the larch, the fir, and the cedar (*Imperator Hadrianus Augustus: arborum genera* iv ; *cetera privata*).

It is curious to compare this epigraphic document with a verse of Isaiah (lx, 13), which appears to me to offer a striking similarity to it—"The glory of Lebanon shall come unto thee, the *berosch*, the *tidhar*, and the *teashour* together, to beautify the place of my sanctuary." The *berosch*, the *tidhar*, and the *teashour* (the improbable box of the Authorised Version) seem designated as four resinous species, upon the botanical identity of which there is a difference of opinion. Add to these three trees the cedar comprised in the parallelism, under the usual metaphor of the glory of Lebanon, and you obtain the very four species which are mentioned in the inscriptions of Hadrian and correspond with those enumerated by Vegetius.

It may not be impossible that the two inscriptions of Nebuchadnezzar may be referred, at an interval of several centuries, to a similar order of ideas, and concern, in all or part, the preservative measures taken by the king for the forests, whose working was the privilege of the Crown. Nebuchadnezzar is not, moreover, the first foreign conqueror who has utilised the riches of Lebanon. On the *basso-rilievos* of the bronze gates of Ballawat one sees the Assyrian soldiers of Shalmanazar II carrying down beams of cedar wood from Lebanon. We know, from other sources, that this king, after having received the tribute of Tyre, Sidon, and Gebal, had his statue erected in Lebanon, where he had been to get cedar wood on the mountain of Bahli-Rashi. It is perhaps also in the neighbourhood of Hermel, and not, as was thought, at the mouth of the Dog River, that it would be advisable to seek the monument of Shalmanazar II executed on this occasion.

One might easily multiply these comparisons borrowed from the Assyrian documents. I will limit myself to mention only one more, the inscription of Assurnatzir-Pal, discovered at Ballawat by M. Rassam, and recently studied with success by Mr. E. A. Budge. One may read at the lines 24–27, "To the land of Lebanon I went; beams of cedar (*erini*), *surman* wood, cypress wood (*daprani*) I cut down." However that may be, the inscriptions and *basso-rilievos* of Nebuchadnezzar are worthy to be put beside the well-known monuments left in Syria by the Assyrian and Babylonian conquerors, as testimonies of their passage through Phœnicia, not far from there, in the valley of the Dog River, north of Beyrout. The discovery of M. Pognon proves that Lebanon has not yet said its last word, and that an accurate exploration of this vast tract of mountains would, perhaps, produce new and still more valuable discoveries of the same kind. We must not forget that there remains to be found, among other things, the great Phœnician sanctuary, where the mountain, itself deified, was adored under the name of Baal-Lebanon. The existence of this topic Baal is attested by the bronze cup dedicated to him by a *soken* of an undetermined city, namesake of the classical Carthage, a personage whom I have formerly demonstrated to have been a high functionary of Hiram, King of the Sidonians.

CH. CLERMONT-GANNEAU.

GENUINE AND FALSE INSCRIPTIONS IN PALESTINE.

(*Reprinted from the "Times."*)

The Holy Land, among other privileges, possesses one not much to be envied. Among all the regions of the ancient world it is the one that, until now, is noticeable by the greatest sterility as regards the production of ancient monuments. And yet Palestine, that country so small upon the map but so large in history, occupies so considerable a place in the annals of humanity that it is above all there one would wish to exhume some of those contemporary documents of events, those authentic witnesses of the past, which arise abundantly from the soil of Assyria, Chaldea, Egypt, Greece, and Italy. What would we not give to be able to confront the Bible with such witnesses, and to call forth from the ground of Palestine stones or books that would speak to us of its history during the Jewish period, and would permit us to examine the Biblical narrations with the strictness required in these days by science! In spite of active and repeated researches, of considerable pecuniary sacrifices, it is only within the last twelve or thirteen years that a few happy discoveries have been made which have broken this epigraphical silence of the Holy Land, and encouraged the efforts of future explorers by showing that, if Palestine is sparing of her treasures, she is, nevertheless, not absolutely disinherited in this respect, and that one might reasonably hope to obtain others from her.

The number is unfortunately soon counted of the inscriptions of Palestine, discovered until now, which carry us back to the destruction of Jerusalem by Titus, a decisive moment marking the end of political Judaism. As many as seven may be enumerated. The earliest in date and the most important is the Moabite Stone, which I had the good fortune to get out of the clutches of the Bedouins. This inestimable document, written in Phœnician characters and Moabite language, a dialect closely related to Hebrew, may unquestionably be considered as an original page of the Bible, dated with certainty the ninth century before our era. It gives a detailed account of the political and religious struggles between Moab and Israel, from David to Jehoshaphat, and furnishes us with a singularly instructive counterpart of the narratives of this period, contained in the Second Book of Kings. It further possesses the advantages, perhaps still superior, of giving us the most ancient known specimen of alphabetical letters; of those twenty-two Phœnician characters come to us through the Greeks and Romans—that is to say, the prototype itself of our A. B. C., of that universal instrument used by the greater part of the civilised world to express and fix thought.

The Moabite Stone is a Hebrew document; it is not, properly speaking, an Israelite document. The city of Jerusalem itself has furnished us with as many as four really Israelite inscriptions. They all four present this

peculiarity, that of being engraved in a cartouch or hollow framing on the rock, thus being localised with entire certainty. There are, first, two inscriptions, unfortunately much mutilated, discovered by me in 1870, upon the exterior wall of a cave, hollowed out of the rock, in Selwan, at the very gates of Jerusalem. They are also in archaic characters of Phœnician form, and anterior to the destruction of the kingdom of Judah by the Chaldeans, in 588 B.C. Afterwards comes an extremely curious inscription discovered about three years since by some Arab children who were bathing in the spring of Siloam, at the foot of Jerusalem. It is the narrative, in archaic characters, also engraved on the rock, of the operation accomplished by the Israelitish engineers, who had dug under Mount Moriah a tunnel more than 500 mètres long, and which is still in existence. It is, on a small scale, a work similar to the St. Gothard and Mount Cenis tunnels. Finally, in 1881, I ascertained the existence of a fourth inscription of a similar kind, engraved over the door of a pretty little monolith naos, of Egyptian style, cut in one piece out of the rock. This monument, erected in the midst of the village of Selwan, and which has always attracted the attention of travellers and tourists, without any one having suspected the existence of an inscription, may henceforth be by good rights considered as an authentic specimen of Israelitish architecture of the period of the Kings of Judah.

To these five inscriptions may be added two others—the inscriptions of Gezer and the stela of the Temple of Jerusalem. The inscriptions of Gezer consist of a group of four bilingual epigraphs, Greek and Hebrew, also cut in the rock, in a part of Palestine which I had proved ten years ago to be the site, vainly sought until then, of the Royal Canaanite city of Gezer. Two years after having given this merely theoretical demonstration, which was then not received without objection, I was fortunate enough to discover, on the ground itself, these four inscriptions, which give an unhoped-for confirmation of it, since they contain, at full length, this brief but decisive mention, repeated as many as three times—"limit (*tehum*) of Gezer." The writing is less ancient than that of the preceding inscriptions, and brings us to the epoch of the Maccabees. But it is still a document plainly belonging to the true Judaic history. The stela of the Temple is a monument which, although less ancient than the Moabite Stone, and written in the Greek, and not the Hebrew language, is nevertheless on a par with it as regards historical value. If the Moabite Stone is, in some measure, an original page of the Old Testament, the stela of the Temple is undoubtedly an authentically original page of the New. This stela, which I discovered in 1871, in the foundations of an old Arab edifice, close to the Mosque of Omar, contains in reality the text itself of the famous law forbidding, under pain of death, to the Gentiles, the entrance of the sacred precincts of the Temple, reconstructed by Herod. It is, by virtue of this law, invoked by the enraged Jews, that the Apostle Paul, after having with great difficulty escaped tumultuary execution, was dragged before the Roman tribunal.

There are, therefore, as I have said, in all, seven inscriptions only, belonging with certitude to the old historical past of Palestine. By a piece

of good luck, six of these have fallen to my share. I do not take into account the Israelite seals, now tolerably numerous, of which I recently published some fine specimens,[1] neither the stamped handles of amphoræ, discovered in 1869 by Colonel Warren, R.E. These little intaglios and these fragments of pottery, which constitute, so to speak, the small change of ancient Israelitish epigraphy, are, in fact, by their nature, of too uncertain origin. I also exclude the Jewish ossuaries with Hebraic inscriptions, also the epitaphs in the Necropolis of Joppa, and of a few sepulchres in Palestine, of which I have collected and published a sufficiently large number. Their antiquity, according to my idea, has been exaggerated, and if some of these small epigraphs, otherwise without historical interest, can strictly be traced back to the commencement of the Christian era, the greater part of them are, in my opinion, subsequent to Titus.

Perhaps, strictly, one might add another (eighth) number to this too short list—the sarcophagus discovered by M. de Saulcy in the Q'bour el Molouk, and bearing a double epitaph in Aramæan and in Hebrew—"The Queen Saddan or Sadda." It is quite impossible to accept for an instant the conjecture of M. de Saulcy, who thought to have found therein the very body of a queen of the old kingdom of Judah. I think I am able to show that this Queen Saddan, quite unknown historically, is none other than the Queen Helena of Adiabene herself. This illustrious Jewish proselyte must have had, according to the fashion of those times, a double name—one Greek, Helena, the other, Semitic, and national, Saddan. This monument is, therefore, only indirectly connected with Jewish archæology, It is probably to remedy this dearth of ancient monuments that there were established at Jerusalem several years ago certain manufactories for the fabrication of antiquities at prices sometimes moderate, sometimes fairly remunerative, not only for the benefit of tourists, but also of *savants*, which is more serious.

First, there are the spurious antique coins. That is a trifling matter, and *Messieurs les faussaires* are here almost in their right, the more so as their industry is not fraught with danger to the real connoisseur. There are fabricated readily at Jerusalem apocryphal silver shekels for the delectation of tourists greedy after antiquities, who would return home disconsolate if they did not take back from their pilgrimage to the Holy Land as a precious souvenir some counterfeit specimen of the coins of the Maccabees. The forgers are not always satisfied with imitating more or less cleverly from real models. They sometimes invent. Some years ago there were to be found in the bazaars at Jerusalem bronze coins of Moses, which met with great success. They represented on one side the head of the Hebrew law-giver, adorned with magnificent ram's horns; on the other, Hebraic legends taken from Mosaic books. The legends were, it is true, in square—that is to say, modern characters, but the amateurs did not look into things so closely.

[1] "Sceaux et Cachets Israélites, Phéniciens et Syriens, suivis d'Epigraphes Phéniciennes inédites." Paris: E. Leroux, 1883. (With two plates.)

Generally this gang of Syrian forgers have no great imagination. They are not properly inventors; they are rather dull imitators. Their productions are generally connected more or less ingeniously, either by the external or internal conditions, either by the circumstances of time and place with some important archæological discovery. If by chance some authentic and antique object is discovered, they at once set to work and reproduce it for better or for worse, often for worse, or imitate it servilely. Here is a curious and hitherto unmentioned example, taken from another ground than that of Palestine, but contiguous to it. I received some years ago from M. Mordtmann, of Constantinople, a small figurine in terra-cotta, very prettily modelled, and still retaining traces of ancient gilding. It represents a winged bull half kneeling. The figurine is hollow and shaped in the form of an antique lamp. In the middle of the back is a large hole intended to receive the oil; on the top of the head a smaller hole is disposed to allow the wick to pass, and the flame to shine between the two horns. The curved tail of the animal serves as a handle to hold the lamp. This little idol, apparently a reminiscence of the Golden Calf, bears on the left and on the right hip a double Phœnician inscription, engraved in the clay before the baking. The whole thing has really not a bad appearance. The Phœnician inscription begins on the right and continues on the left hip; it can be easily read—"Yehaumelek, son of Yirpel." The figure is a perfect forgery. I can prove it easily. The modern modeller has merely copied the name of Yehaumelek, King of Byblos, whose stela, found at Yebail, and recently published by M. de Vogüé, had made some noise in Syria. Upon the original stela, slightly defaced in this place, the name of the father, or rather the grandfather, is very difficult to decipher. The forger, puzzled, as have been the *savants* themselves, has read and transcribed it fancifully, being perhaps influenced by the existence of the Biblical name of locality Yirpal (Josh. xviii, 27). I have never been able to ascertain exactly the studio whence this little monument was issued, the execution of which betrays a far cleverer hand than that which formed the Moabite potteries.

The forgers execute inscriptions readily, and that can be understood; for an inscription is a *rara avis* in Palestine, and consequently much sought after. The discovery of the Moabite Stone and that of the stela of the Temple have given new scope for the activity of the forgers, over-excited by the powerful stimulant of cupidity. It may be said that in this respect the Moabite Stone, which gave birth to the false Moabite potteries of Berlin, thousands in number, has been a true *Mère Gigogne* The Moabitica, as they are called in Germany, are, in fact, its direct offspring. It was destined at an interval of ten years to serve as a basis for a fraud of at least equal importance—that of the Biblical manuscript of Mr. Shapira. The first of these frauds was successful; the second was luckily a failure, after having, nevertheless, been too far on the road to success.

To those who might be inclined to think that it is taking a great deal of trouble, and conferring much honour on those archæological frauds to

unmask and judge them publicly, that it is making much ado about nothing, that it would suffice to condemn and to execute them with closed doors among *savants*, I can only reply by quoting the words of a judge whose authority no one can question :—

"The precautions against spurious Oriental monuments have been superfluous until of late years ; in future they will become necessary, and add to the difficulty of studies already so full of impediments."[1]

"The forgers threaten soon to cause so many obstacles to the study of epigraphy and Oriental archæology, that we must place among the most signal services that of unmasking these kinds of fabrications."[2]

These words were pronounced by the illustrious and incontested chief of Semitic studies shortly after my having succeeded, not without trouble, in putting an end to the mystification of the Moabite potteries of Berlin. "It was fortunate," added M. Renan, "that this regretable error was overthrown by evidence, so to say, material. . . . With the same stroke M. Clermont-Ganneau has anticipated more than one mystification for the future." It is a fact that the forgers, slightly discomfited after the heavy blow they had received, had kept quiet during ten years. With time they gained fresh courage, and organised the colossal fraud of the Shapira manuscript. Again unmasked, it is probable that they will leave us in peace for some years. But that kind of people are never disheartened. After a while, when their misdeeds are consigned to oblivion, they will set to work anew, and we must not despair of seeing, some day, spring from their inexhaustible manufactories the mended pieces of the Tables of the Law, broken on Mount Sinai, or the Blue Book from the Foreign Office of Mount Sion, the diplomatic correspondence of Solomon with King Hiram, and his private amatory epistles to the Queen of Sheba.

The affairs of the Moabite crockery and that of the Shapira manuscript are now too well known to be again discussed here ; they belong henceforth to history. I wish to speak of other less known forgeries, which I have met with during my explorations in Palestine. Although of minor consequence, they are, however, deserving of notice, if only to throw a full light upon the manœuvres of the "bande noire," which has taken the Holy Land as the scene of its exploits. I intend, moreover to publish shortly a book[3] containing a detailed study of the whole of the Palestinian forgeries, great and small.

In the month of May, 1871, I discovered at Jerusalem the stela of the Temple, of which I have previously spoken. I exerted myself to the utmost to obtain the original ; in spite of considerable sacrifices, unfortunately, I failed, in consequence of the obstinacy of the Mussulman possessors of the house under whose foundations the stela was built up. I was obliged, just at that time, to leave Jerusalem, having been summoned to our Embassy at Constantinople. The negotiations were, therefore,

[1] E. Renan. "Rapport Annuel," *Journal Asiatique*, Juillet, 1876, p. 37.

[2] E. Renan. "Rapport Annuel," *Journal Asiatique*, Juillet, 1874, p. 30.

[3] "Les Fraudes Archéologiques en Palestine," with engravings. Paris : E. Leroux, 28, Rue Bonaparte.

forcibly broken off. The rumour had, meanwhile, reached the ears of the Turkish governor. He was convinced, from the interest taken by me in the matter, that this discovery must be a great treasure. The very day of my departure, he gave orders to remove the stela, without more ado, and to deposit it in the Seraï. It was to be forwarded to Constantinople. In fact, after having lain a few months in the Seraï, it was despatched *viâ* Jaffa, but it never reached its destination. It is now some twelve years since this event, and the stone is still looked for at Constantinople. It must have been sold for a good price to some European, and I have no doubt that it will one day reappear from its hiding-place, after a lapse of time sufficient for the prescription, in some great public collection. What I am certain of is that substantial offers were, after my departure, made to the governor by the representatives of certain foreign Powers at Jerusalem, and I have it from a reliable auricular witness, that the governor had asked one of them the sum of £2,000 sterling. A little later, he would have been satisfied with 1,500 Turkish pounds. I also know that his secretary had written to a well-known Parisian Israelitish financier, proposing to him the acquisition of this unique monument of Jewish history. But this appeal to the national feelings fell on deaf ears, and the governor was obliged to go elsewhere. The fact is, that the stela of the Temple has disappeared from the horizon, and that no one knows, or is willing to tell, what has become of it.

As for me, I had given up all hope, when, scarcely arrived at Constantinople, I received from a friend of mine at Jerusalem, an unexpected piece of news. A Christian Arab, of the Holy City, named Martin Boulos, whom I had employed in the unsuccessful negotiations for obtaining the monument, called upon him on the 30th of September. He brought him the rough copy of Greek letters, engraved, he said, on a stone, quite similar to the other, and built up, like it, in the wall of an Arab house. He undertook to take it away, and to deliver it up to me for a good round sum. The thing was not, *à priori*, as unlikely as might be thought, for we know from authentic sources, from Flavius Josephus, that there were several stelæ identical with that discovered by me, not only in Greek, but also in Latin, erected at intervals along the sacred precincts surrounding the area of the Temple. This might, therefore, possibly be a second stela that Martin Boulos had picked up. Nevertheless, the almost simultaneous discovery of these twin sisters was, it must be confessed, a most astonishing coincidence. Moreover, I knew that Martin Boulos was, by profession, a stone-worker, that he had often engraved epitaphs upon tombstones for the cemetery in Jerusalem, added to which I knew from experience his unscrupulousness, and I had the firm conviction that he had betrayed me in the very transaction in which I had employed him as an agent.

I immediately suspected a fraud, coupled with an attempt to swindle me. I lost no time in writing to my friend, to put him on his guard, at the same time urging him to let the fellow entangle himself to the utmost. He appeared again ; after the copy he brought the squeeze of the stone. Then a comedy began, which lasted no less than three months before

arriving at the anticipated catastrophe, and amusing details of which are not wanting. I received regular information from my friend. First, there were all kinds of difficulties made to show the pretended original, which happened to be in a house adjacent to that where I had discovered the stela. They feared to rouse once more the attention of the governor. The landlord was afraid, and he and his Mussulman confederates made incessant demands for money, to indemnify the one or purchase the silence of the other, &c. On the 24th of November, my friend at last succeeded in being taken to the place where lay the treasure. He was conducted to it most cautiously, at 5 o'clock in the morning, to a little dark stable, where a donkey was stalled. The ass began to bray, and threatened to denounce to the neighbours the presence of visitors who walked stealthily. Feigned terror of the bystanders. The unlucky animal was silenced by having its tail pulled, an infallible recipe, it appears, for closing the mouths of loquacious donkeys. The alarm over, my friend was shown the famous stone, fitted into a recess in one of the walls of the stable, and partly loosened. It was placed in exactly the same position as the other—that is to say, the line descending vertically.

Some days after this little got-up play, which seemed to have produced the desired effect, Martin Boulos, thinking the affair ripe, succeeded in taking away the stone, and took it in triumph to my friend. It was then that an unexpected thunderclap occurred. My friend told him plainly that the stone was a mere forgery. Martin Boulos was forced to confess his guilt, and went away, leaving his pretended stela in the hands of him he would have cheated, only too glad to have got off so cheaply.

When I returned to Jerusalem in 1873, I found the stela of Martin Boulos deposited in the Franciscan Convent of St. Sauveur. I took a photograph of it as a curiosity. The false stela has much the same dimensions as the original, only the impostor has chosen, as less difficult to work, a softer limestone. The inscription is copied line for line and letter for letter. But the modern engraver has committed numerous errors, either in confusing one letter with another, or in joining together separate characters, or in leaving blank spaces in the parts too much defaced to be deciphered by him.

The false stela of the Temple was not long without its pendant. I find in my note-book the following lines, written before my departure for Constantinople, proving that Martin Boulos was already busy preparing his forgeries: "Martin had found in the village a stone with inscription, half buried; only two lines were visible above ground." I left Jerusalem without having had the leisure to verify this statement, which, at this time, I had no reason to suspect. It was, in fact, a false monument, as I afterwards acquired the material proof.

The reason which determined the imposter to localise it at Selwan was that I had discovered some months before at this place, and had cut from the rock, the two archaic Hebrew inscriptions before mentioned. This tit-bit was apparently reserved for me. My sudden departure baffled Martin Boulos, who sought other dupes.

It appears from a letter addressed to me by Brother Lievin, on the 25th of February, 1872, that the pretended inscription was introduced into the Jerusalem market about this time. Negotiations were entered into on the matter with M. Mourad Hilperu and Mr. Shapira, antiquity dealers in the Holy City. The latter had had, at least, a squeeze of the inscription in his hands. I do not know whether it is through the medium of one of these persons that it was sold or re-sold to its final purchaser. At any rate, a very learned and honest man living in Jerusalem was taken in and induced to buy the stone. When I returned to the Holy Land in 1874 I had occasion to examine the monument itself, and I took a photograph of it. It was not without trouble that I succeeded in undeceiving its possessor, who firmly believed in the authenticity of the inscription. It is a very hard block of limestone. The inscription is composed of eight lines of Greek characters, not deeply engraved, out of which it is impossible to make any sense. Scarcely can here and there be recognised a few incoherent and barbarously spelt words. It is probably this puzzling feature which raised the curiosity of the buyer, and made him fall into the trap. He is a clever Greek scholar, and it is certain that put before a translatable inscription, such as the clumsy reproduction of the stela of the Temple, he would have recognised the imposture at first sight.

The forger had this time very cunningly placed himself on the footing of untranslatableness. These tactics have been employed with full success in the fabrication of the Moabite crockery, whose purely fantastical epigraphs have deluded the most learned interpreters of Germany, and have, just on that account, determined their conviction. The characters of the false Greek inscription of Selwan visibly proceed, moreover, as regards shape, from those of the stela of the Temple. Although the forger has carefully refrained from reproducing the same words, he has unconsciously fallen again into certain combinations of letters, betraying the model placed before his eyes. At the same time Brother Lievin sent me the squeeze, or the copies of a series of pretended ancient monuments, recently discovered, and stored in the shop or the back shop of M. Mourad Hilperu and of Mr. Shapira. I immediately perceived that they were apocryphal, and I hastened to put my friend on his guard against this attempt, where I easily discerned the working of a bold and enterprising band of forgers, whose leaders were personally known to me.

It was, first, the reproduction, pretty well executed, on stone, of a Nabathean inscription from Oumm-er-resâs, of which I possessed, since 1869, a squeeze. This squeeze, offered by me to the Commission of the Corpus Inscriptionum, Semiticarum, through the medium of M. de Vogüé, has been the object of a learned study by this latter and by M. Renan. I at once recognised my old acquaintance. Afterwards came the copy, in pencil, of a second inscription, not less fantastic than the first. It is the one which Mr. Koch, in his work[1] on the Moabite pottery, represented on his Plate IV, No. 2. The eager champion of the authenticity of the

[1] "Moabitisch oder Selimisch." Stuttgart, 1876.

Moabite crockery has not seen that this inscription is another reproduction, extremely disfigured, of the inscription of Oumm-er-resâs! It is sufficient to reverse his drawing, which he has placed upside down, and to compare it letter for letter with the said inscription, for the thing to become immediately obvious, although the characters are interpreted in the most artless manner, and several of them have been omitted.

Next appeared a grotesque head of a statue in limestone, ornamented on the neck and on the skull with unlikely Moabite inscriptions. In 1874 I took a photograph of this head, which, it was asserted, had been dug up at Jerusalem itself, and was estimated by its possessor at £20 sterling. It presents a curious particularity in its coarseness. The features recall in a striking manner those of Martin Boulos himself. This unconscious imitation is a well-known occurrence in the primitive arts, where the artist reproduces, so as to speak, unconsciously, his individual or ethnical type. Again, there was produced an illegible inscription, engraved on a fragment of a porphyry column, an inscription of Medeba, containing it was asserted the account of a victory gained over the Moabites by the Israelites, under the command of Moses.

J'en passe et des meilleurs. I will, however, make an exception for the following case :—In a letter, dated October 28, 1871, Brother Lievin sent me, from Jerusalem to Constantinople, the copy, in pencil, of an inscription which had been forwarded to him by Martin Boulos. The latter pretended to have obtained this copy from a Bedouin. The original existed, according to him, in a locality situated beyond Jordan. Shortly afterwards I received a squeeze. The inscription is composed of four lines of Phœnician characters, clumsily imitated from those of the Moabite Stone, and pleasantly intermingled with Greek letters. Underneath are three lines of cuneiform characters. The presence of the cuneiform on this new specimen of forgery was in no way surprising to me, for I had obtained, at Jerusalem, some months before, the copy, made by an Arab, of a brick with a cuneiform inscription of respectable appearance. This brick, which I have every reason to believe authentic, had fallen, I know not by what chance, into the hands of the Bedouins beyond Jordan. I had, nevertheless, not succeeded in seeing the original. In any case, it was this brick that had partly served Martin Boulos as a model for the fabrication of his bilingual text. It is needless to add that this fresh attempt was not more successful than the preceding ones, and that the Moabitico-cuneiform inscription remained on his hands.

At the end of 1873, or at the beginning of 1874, during the mission confided to me by the Palestine Exploration Fund, I picked up a curious specimen of the industry of these Jerusalemite forgers. A certain Mr. Albengo accosted me one day in one of the streets of the Holy City, and taking me aside, offered me for sale a little intaglio, a red carnelian, if I recollect rightly, in the form of a truncated cone. On the widest side was engraved an inscription of four lines in Hebrew archaic characters of rather strange aspect, copied somewhat coarsely from those of the Moabite Stone. The inscription was reversed like those of the ancient Phœnician seals

intended to reproduce by impression the letters in a right sense. It could be read without difficulty, in spite of the intentional or accidental anomalies of several letters :—"The servant of Jehovah, David, King." The very own seal of King David ! and that for the modest sum of ten francs ! It was really given away. It is unnecessary to say that I did not avail myself of this tempting offer. I contented myself with taking an impression and a sketch of the object, of whose future fate I am quite ignorant. Perhaps it will reappear one day in the collection of some less sceptical amateur.

I now come to another series of forgeries. In 1874 I purchased from an Arab mason, as a curiosity, an inscription on limestone, alleged to have been found in the Wadi-Qaddoum, one of the little valleys on the slopes of the Mount of Olives. The inscription, glaringly false, is a hybrid mixture of square Hebrew and of Himyaritic or Sabaean characters. One must not be surprised beyond measure at this borrowing from the Himyaritic alphabet. The forgers had had at their disposal as early as 1870 authentic samples of it. For a certain Jew, named Aron Aorcias, had brought from Yemen a few Himyaritic monuments, among others a very beautiful stela with inscription and figures, which I have published formerly in the *Journal Asiatique*. This last circumstance may also help to explain the presence of letters belonging to the same alphabet of South Arabia in some of the inscriptions on the false Moabite pottery.

On the 4th October, 1874, some Arabs from Jerusalem, of whose names I am ignorant, brought me very mysteriously the cast of a pretended antique inscription. This cast was curiously enough moulded in dough. I feigned to be taken in, and I told them to show me the original, which they asserted to have taken away from I do not know where. The next night they came to my house most cautiously, like conspirators, and solemnly produced a white marble slab. Upon it was engraved, on a gigantic scale, a servile imitation of a Jewish shekel of the year 1, with its well-known Hebraic legend in archaic characters, "Shekel of Israel." Nothing was wanting, not even the vase called Manna vase, figuring always on the obverse of this type of shekel, in the centre of the circular legend. The letters are not too badly imitated. The shape of the slab seems to indicate that it had previously served as a casing wedge in an Arab arch. The stone smelt strongly of petroleum. I offered half-a-sovereign for it. This paltry sum was rejected with scorn, and the indignant fellows retired with their unappreciated *chef d'œuvre* to seek some more credulous amateur.

Why the forgers had fixed their choice upon this model of a shekel is easy to guess. Just about this time a great many silver shekels had been found in Palestine, piled up in a vase sealed with lead. These shekels had been brought to Jerusalem, and I had acquired a good number of them. It will be seen that the principle is always the same, the forgers take as a basis of operation authentic antiquities to which their attention is attracted by a recent discovery.

In 1874 I published a handsome crowned and bearded head of a statue,

picked up close to the sepulchres of the Kings at Jerusalem by some Arab workmen who were collecting stones for a building. I suggested to identify it with the head of the Emperor Hadrian, whose statue formerly figured in the Temple on the very site of the Holy of Holies. This information did not fall upon deaf ears, and the forgers lost no time in setting to work on this new *datum*.

Some time after they brought to a European residing at Jerusalem a head of a statue of hurried workmanship, in soft white limestone, that had been carefully blackened, pretending to look like basalt. The following inscription was engraved round the head :—

AVSVITVSHASPIANVS

It is easy to reconstitute the intended words, oddly mutilated—

AVGVSTVS HADRIANVS

I little expected, I must confess, this astonishing epigraphic confirmation of my conjectures. The author of this beautiful masterpiece was again the aforesaid indefatigable Martin Boulos.

In October, 1881, a large massive silver ring was offered to the Russian Archimandrite of Jerusalem. It measured 4 centimètres in diameter, and had a circular bezel of the same metal, upon which was engraved in a round, an inscription of a star with six rays, formed by two intersected triangles. On the centre of the bezel was represented a sort of vase on a foot, a cup or lamp, or rather a censer, suspended by a triple chain, and recalling singularly the censer that exists upon certain mediæval monuments of Palestine. The object, at least so it was asserted, had been found at Siloé. It was not without reason that this origin was attributed to it. Attention had just been drawn to this locality by the discovery of the well-known Hebrew archaic inscription of the acqueduct of Siloé. The ring had been secretly brought to the Archimandrite, and its immediate acquisition was urged, otherwise it was threatened to be offered elsewhere. The antiquity makers and vendors who are working in Jerusalem, are perfectly well acquainted with the rivalry existing between the Europeans living in this city on the subject of antiquities, and they know how to turn it to good account if occasion requires.

I was then Vice-Consul at Jaffa. The Archimandrite at once sent me impressions and a good drawing, requesting me to give him my opinion by telegraph. I had no trouble in convincing him that he had to deal with a shameless impostor, and the possessor was begged to take his merchandise elsewhere. The inscription, of whose apocryphalness there could be no possible doubt, seemed to me rather difficult to decipher. The characters appeared to have been partly borrowed from the alphabet of the Moabite Stone, and partly from that of the ancient shekels, or Jewish coins, of the period of the Maccabees. It began by the word "izk," seal—a word rare and even unknown, under this Hebrew form. It was visibly borrowed from the Chaldean text of Daniel (Dan. vi, 18), where it is said that Darius sealed with his seal the lion's den, into which the prophet had been thrown. Afterwards came, as it seemed, the name of Jairus. The remainder was hardly intelligible. I only recognised with certainty the word "Kahal,"

assembly. But such frauds are really not worth the trouble of seriously disputing the meaning intended by their often most ignorant authors. I shall merely point out that the maker of this pretended old Hebrew silver seal seems to have taken his first idea from the mediæval seals and bulls of the order of the Knights of St. John, of which he must have had some specimens at hand. The incenser engraved in the centre, the circular disposal of the legend, the star substituted for the cross, which, on the mediæval bulls, marks the beginning and the end of the inscription, are so many characteristics betraying the servile imitation of the model.

Among the few antiquities existing in the Greek convent of the Holy Cross, near Jerusalem, I noticed a Jewish ossuary, in every respect similar to those, tolerably numerous, collected by me in Palestine. It was a small box of soft limestone, on four feet. The front was ornamented, as usual, with roses, traced with a compass. The ossuary, perfectly authentic, came, it was said, from Mâlha, a short distance from Jerusalem. Upon the ornamental front was engraved, in two long lines, partly on the edge, partly on the side itself, a splendid Moabite inscription, perfectly false. I greatly astonished the possessors of the monument by revealing to them the fraud, which they did not in the least suspect. This time the system is different; we no longer have to deal, properly speaking, with a forgery, but with a falsification. I have taken a photograph of this Moabitised ossuary.

These few examples will suffice, I think, to show us under new aspects the activity of the Palestinian forgers, to whom we owe the production of the Moabite potteries, and of the Shapira manuscript. They prove to us that these two memorable mystifications are far from having been sole attempts; but that they form part and parcel of a series of systematic facts, which have preceded, accompanied, and followed them. The forgers, I repeat, have not said their last word. We may expect to see them renew the attack. The public is to-day amply edified, and we hope will receive them as they deserve. Such is the principal aim of this article, which is, so to speak, the epilogue of the history of the Shapira manuscript.

CH. CLERMONT-GANNEAU.

THE PALESTINE EXPLORATION FUND

NOTES AND NEWS.

The Geological Expedition has been, with the exception of one detail, the section across North Palestine, successfully accomplished. Professor Hull returned to London on February 12th, bringing with him the materials for constructing a geological map of the Holy Land very much in advance of anything which could hitherto be attempted. He is now engaged in drawing up a detailed report, which will not, however, be ready for some time yet. Meanwhile, however, we shall be able to publish a popular account of his journey, the first instalment of which appears in this number of the *Quarterly Statement*.

The leading features of his report may be briefly stated as follows:—Professor Hull has traced the ancient margin of the Gulfs of Suez and Akabah to the height of 200 feet above their present level, so that the whole country has been submerged to that extent, and has been gradually rising. As one most interesting result of this rise, the Professor is of opinion that at the time of the Exodus there may have been a continuous connection of the Mediterranean and the Red Sea. If his fact is established, it will place all the questions connected with the narrative on an entirely new footing. As regards the Dead Sea, he has discovered that it formerly stood at an elevation of 1,400 feet above its present level; that is to say, 150 feet above the level of the Mediterranean. The history of this gradually lowering of the waters will form a special feature in Professor Hull's forthcoming report. He has also found evidences of a chain of ancient lakes in the Sinaitic district, and of another chain in the centre of the Wâdy Arabah, not far from the watershed. The great line of feature of the Wâdy Arabah and the Jordân Valley has been traced to a distance of more than a hundred miles. The materials for working out a complete theory of the origin of this remarkable depression are now available. They are found to differ in many details from the one furnished by Lartet. The terraces of the Jordan have been examined, the most important one being 600 feet above the present surface of the Dead Sea. The relation of the terraces to the surrounding hills and valleys shows that these features had already been formed before the waters had reached their former level. Sections have been carried east and west across the Arabah and the Jordan Valley. Two traverses of Palestine have also been made from the Mediterranean to the Jordan.

Meantime, Dr. Gordon Hull has taken more than a hundred photographs, chiefly of places never before figured. These are now being printed, and a list of them will be ready for the next *Quarterly Statement*. As regards Mr. Henry Hart and Mr. Reginald Lawrence, the two "volunteers," the former has made

valuable botanical and other collections, which, however, were not made for the Committee, who allowed these gentlemen to join Professor Hull on the condition of their paying their own expenses, and have therefore no claim upon them for their discoveries.

On the arrival of the party at Gaza, as will be seen by the letters of Professor Hull, Captain Kitchener left them and returned to Egypt alone, and by a new route. Mr. Armstrong went on with Professor Hull as far as Jerusalem, where he remained for some weeks working up the map from the observations, plans, and sketches taken by Captain Kitchener and himself in the Wâdy Arabah. This done, he proceeded to Cairo and received from Captain Kitchener his reports—(1) on the topographical work of the Expedition; (2) of his own ride across the Desert from Gaza to Ismailiyeh, and the map of the route. He arrived in England on Wednesday, March 12th.

It is too late to publish the maps and reports with this number of the *Quarterly Statement*. It will, however, be interesting to select one or two of the most striking points. Captain Kitchener received from an Arab a version of the story of Palmer's murder, which may or may not be true, but which differs materially from the accounts already published; he found the natives profoundly impressed by the vigour with which Sir Charles Warren hunted down the murderers, of whom the most guilty is still, however, at large; he visited the Temple at Sabul el Khadeim; he has advanced a new theory as to the origin and purposes of the *nawamis* concerning which Palmer's "Desert of the Exodus" gives a good account. On the way from Akabah to the Dead Sea he found traces of an old city, about a mile north-east of the Bay of Akabah; he made a triangulation of the whole valley, and in his report describes the conformation of the ground; he visited Petra with the rest of the party; he describes the distribution of the tribes over the ancient Edom, and he corrects and fixes the shape and positions of the southern shores of the Dead Sea.

One passage may be quoted at length:—

"Mr. Armstrong explored the country towards the east, and found, six miles north of Feidan, the ruins of a small town in a valley surrounded by bold and precipitous cliffs. The ruined walls are from a foot to 3 feet high; the stones are roughly squared, and of no great size; there are some black heaps which resemble clay heaps, and show that very probably ancient mines may be found in the neighbourhood." No name could be obtained from this ruin; indeed the difficulty of getting names at all in the Wâdy Arabah is very great, because there are no natives to ask them of. Other remains and indications of former buildings were observed on the eastern side; as in the Sinai peninsula, there were formerly terraces on the valley slopes irrigated by the streams which now run to waste. Also, Captain Kitchener heard many stories and reports concerning the ruins which lie east of the hills of which Petra is one. It must be remembered that Laborde is the only traveller who has yet been in this district. His ride through it was too hasty to allow of exploration, yet Captain Kitchener speaks highly of the accuracy of his plan of Petra.

Another interesting find was made by Mr. Hart, in his botanical rambles, at a place called Khurbet Lubrush. "These remains consist of a large number of *nawamis;* some of which are in a wonderfully perfect state of preservation. They are dotted about thickly over the site, without any plan, and the openings in them having no special direction. A few loose stone walls near some of them have the appearance of having been thrown up recently round tents. Enclosing the greater number of these *nawamis* is an ancient wall, following the contour of the hill for a quarter of a mile; only the foundations now remain, but they were of massive undressed masonry of apparently very remote antiquity. Inside the wall there are the ruins of an oblong building of similar masonry, very probably an ancient temple. Unfortunately, the remains are so ruined that it is impossible, without considerable labour, to thoroughly explore or measure the monument. Only one corner could be determined, the remainder being covered by heaps of massive stone blocks."

The cost of the Expedition has been about £2,000. The publication of the results must, however, be added. A large part of the bill remains to be paid. The subscribers of the Society will perhaps make a note of this fact.

The small piece of the Survey of Eastern Palestine, consisting of 550 square miles, has been reduced and engraved on the same scale as the modern Map of Western Palestine. Subscribers to the Society who wish to have it in order to add it to their map, can do so by application to the Secretary, post free, for eighteenpence.

The two volumes to complete the "Survey of Western Palestine" are very nearly ready. As soon as the work is completed, the Committee will take steps to have the few copies which remain subscribed. They would greatly prefer to see them in public libraries, where their contents would be generally accessible, and would therefore be much obliged if their friends would place them in correspondence with librarians in any part of the world.

The only authorised lecturers for the Society are—

(1) The Rev. Henry Geary, Vicar of St. Thomas's, Portman Square. His lectures are on the following subjects :—
- The Survey of Western Palestine, as illustrating Bible History.
- Palestine East of the Jordan.
- The Jerusalem Excavations.
- A Restoration of Ancient Jerusalem.

(2) The Rev. James King, Vicar of St. Mary's, Berwick. His subjects are as follows :—
- The Survey of Western Palestine.
- Jerusalem.
- The Hittites.
- The Moabite Stone and other monuments.

BALANCE SHEET.

1883.		£	s.	d.
Jan. 1.	Balance	363	14	3
Dec. 31.	Subscriptions	2,014	1	1
„	Maps and Memoirs	881	7	0
„	Books	100	11	0
„	Photographs	22	3	7
		£3,381	16	11

1883.		£	s.	d.
Dec. 31.	Exploration	732	2	3
„	Maps and Memoirs	1,521	5	2
	Management :			
„	Salaries and wages	374	7	3
„	Rent	121	0	0
„	Stationery, Advertising, Lithography, Insurance, and Office	83	18	2
„	Printing	263	2	2
„	Postage	113	16	3
„	Balance	172	5	8
		£3,381	16	11

The liabilities of the Society on January 1st were as follows:—

		£	s.	d.
1.	Office and Printing account	652	17	9
2.	Memoirs .. .. about	500	0	0
3.	Maps .. .. „	750	0	0
4.	Exploration .. .. .. „	1,500	0	0

As regards the second account, it includes part, but not all, of the books, engravings, lithographs, &c., now being prepared. This amount is already reduced by £388. Up to the present moment the amount spent on "Maps and Memoirs" is more than equalled by the receipts, so that, although we do not expect the small maps to pay the expense of production, which was very heavy, the general fund will not bear any part of that expense. The third account has now been reduced by £300, and the fourth by £885.

The assets of the Society are—(1) a balance in hand on March 20th of £816; (2) the amount due for the "Survey of Western Palestine," about £1,000, which will be called in on the completion of the work in April; (3) the copies of the "Survey" still unsubscribed for, which will then be offered to libraries and the public; (4) copyrights of books, photographs, collections, &c. The subscribers will understand that the liabilities on the Maps and Memoirs have nothing to do with the general fund.

The printing account is large, but this will be greatly reduced during the present quarter.

Speaking roughly, without special effort the Committee can reckon on a body of subscribers whose guineas and half guineas amount to about £2,000 a year: their management expenses are very nearly a fixed quantity, viz., about £600 a year. The printing of the *Quarterly Statement*, given to subscribers, requires about £400, while the postage of the Journal comes to about £70 a year.

The following is the classified division of the year's expenditure:—

Exploration	22·78 per cent.
Maps and Memoirs ..	47·43 „
Management	18·04 „
Printing	8·19 „
Postage	3·56 „
	100·00

March 20th, 1884.

WALTER MORRISON,
Hon. Treasurer.

The income of the Society, from December 12th to March 21st inclusive, amounted in all, including subscriptions, lectures, and payment for maps, memoirs, and publications, to £2,612 8*s.* 10*d.* On March 21st the balance in the Banks was £816.

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

THE PALESTINE PILGRIMS' TEXT SOCIETY.

Enclosed with this number of the *Quarterly Statement* will be found a prospectus of the objects of the Palestine Pilgrims' Text Society, newly established under the Directorate of Sir Charles Wilson. The Society proposes to issue, as funds permit:—

(1) The whole series of early pilgrims' travels in the Holy Land, translated and annotated.
(2) The passages from the early Fathers which relate to the topography and geography of the Holy Land.
(3) Those passages from the Talmud which bear upon these questions.
(4) The early Arabic and Persian descriptions of the country in translation.
(5) Such portions of Procopius and the Byzantine historians which are concerned with Palestine.

As regards the first of these objects, the Council of the Society will be able to make use of the labours of the late Dr. Titus Tobler, in his collection of texts, published first in Germany, and next, with the collaboration of M. Aug. Molinier, in the Geographical series of the *Société de l'Orient Latin*, a society whose excellent work is too little known in this country. An account of its publications, by Miss L. Toulmin Smith, appeared in the *Academy* of February 16th, 1884. The texts published by Tobler, and by the French Society, are not translated, and it is felt that in order to make them generally useful in this country they must be published in English. Each pilgrim's narrative will be issued with separate introduction and notes, and a map showing his route in Syria. The early Fathers, the Byzantine historians, and the Persian and Arabic historians, have never been translated, or even consulted for their topography; while as for the Talmud, it would be difficult to find a dozen scholars in this country who have even read it. The Society is entirely separate from the Palestine Exploration Fund, but the Committee have granted the use of their Offices, and the Secretary of the Fund is the Honorary Secretary of the Society.

PROFESSOR HULL'S LETTERS.

I.

November 10*th*, 1883.

This will be my last letter to you for some time. We are just about to drop down the Gulf of Suez in a sail-boat, and then to land opposite "Moses' Wells," where we camp to-night and to-morrow (Sunday).

Our camels arrived here safely on Friday, and are by this time probably in camp at the Wells. We are now all here, some of our party having arrived yesterday, my son and I the day previous, so as to see to everything connected with our journey, and any objects of interest in the geology of the neighbourhood.

As the grand escarpment of Jebel Attâkah presented so fine an appearance from the roof of our hotel yesterday morning, we determined to visit it; so we dropped down the bay and crossed over to the pier constructed by M. de Lesseps for bringing stone over here for the piers and harbour of the Ship Canal.

The rock is limestone, exceedingly rich in fossils, of which we carried away some, and with part of our baggage are sending them on to Jerusalem to await our arrival there.

Our Arab boatmen proved right pleasant and hard-working fellows, and when the wind fell, took to their oars with a will, chanting a monotonous, but not disagreeable, refrain all the while.

The Duke of Connaught has just passed through and embarked on board the "Shannon," which has been lying in the harbour for some twenty-four hours awaiting his arrival. A salute of eighteen guns was fired from the fort in his honour this morning.

I think we are fortunate in our conductor, Barnard Heilpern. He is most obliging, and seems to manage affairs well. We have also secured the services of the celebrated cook, Ibn Miriam. We are all well, through God's goodness, and in good spirits, anticipating life in the desert; to-night will be our first under a tent.

Kindly address to the care of Consul Moore, at Jerusalem.

II.

December 2*nd*, 1883.

I think my last letter was dated from Suez, and I am now able to announce our safe arrival at Akabah on the 27th ult., after a very interesting but somewhat laborious journey across the Sinaitic peninsula. We had every

reason to be satisfied with the conduct of our Towârah Bedouins, who have accompanied us thus far and returned to their homes in Wâdy Feiran yesterday. We spent three days in the neighbourhood of Jebel Musa, and made the ascent of that mount, from the top of which Kitchener took angles to several prominent points, while on the same day Hart ascended Mount Catharina, a feat hitherto unperformed in one day, and was rewarded by finding several plants which are representative of colder climes. From Jebel Musa to this place we have taken the upper or northern route partially explored by the late Professor Palmer, and at an earlier period by Laborde, as recommended in the instructions of the Committee; this has enabled us to add considerably to the accuracy of the geology and topography of this district, while my son has had an opportunity of taking numerous photographs of districts which will be entirely new.

On Saturday week we traversed a magnificent gorge, cut through granite cliffs and extending for several miles, which we believe has not hitherto been described, though it may have been visited by Laborde and Palmer; it commences at the head of the Wâdy el Ain, and on Sunday, 25th, we encamped lower down the same valley. We found the escarpment of the Tîh in the district where we crossed much more broken and indeterminate than is generally represented on the maps, owing to the existence of several large faults or dislocations of the strata which traverse that district in a generally north and south direction; and we have finally determined the position of the leading line of fracture to which at least this portion of the Wâdy el Arabah primarily owes its existence. I regret to have to announce that our course towards the Salt Sea by this valley is barred, owing to a blood feud between the Alowyn and Teyahah tribes; this is a serious disappointment to us all, as it may render it impossible for us to visit the southern extremity of that sea. We have, however, entered into a contract with Sheikh Mohammed Ibn Jad (of the Alowyn tribe), by which he undertakes to escort us to the Wâdy Musa and Petra, and one day's march further up the Arabah, after which we shall have to strike off west into the Tîh plateau—somewhat in the line traversed by Palmer, Drake, and Robinson—to Gaza, whence we shall make our way by Jaffa to Jerusalem. This will enable us at any rate to explore about two-thirds of the Wâdy el Arabah, to determine the position of the principal elevations, to ascertain the height of the dividing ridge between the Gulf of Akabah and the Salt Sea, and to examine Mount Hor and Petra, from which we hope to be able to bring home for the first time some good photographs. It will also enable me to make a geological traverse of the district bordering the southern extremity of Western Palestine; so that there is some compensation for our disappointment. We are all in excellent health and good form, notwithstanding the heavy marches and considerable fatigue; and we have made excellent collections illustrating the botany, geology, and zoology of the district we have traversed.

III.

December 26th.

My last letter was written at Akabah: I hope it has been received. I expected that my next would be from Gaza or Jerusalem, but a series of unforeseen events has caused me to date from Es Safeh, in the Ghor.

Let me say in the first place that we are all safe and well, and that up to our entrance into the Ghor eleven days since, everything had gone as prosperously as could have been anticipated. In my former letter I stated that our way to Jerusalem was blocked, as Mohammed Jad refused to take us down into the Ghor, and we left Akabah with the full expectation of reaching Gaza, and so on to Jerusalem. Our party was placed under the immediate escort of Mohammed's brother Ali, and after some difficulties with the Arabs we ultimately got off on 3rd ultimo, and proceeded up the Wâdy el Arabah by easy stages, all our party being busily engaged in making observations in their several departments.

On reaching the watershed, on the 7th, Sheikh Ali made an unexpected proposal to the conductor, Bernhard Heilpern, to the effect that for a certain sum he would take us down into the Ghor, to the camp of the Ghawarnehs, to within two hours' march of the Salt Sea, and thus enable us to carry out our original intention of marching through the Arabah direct to Jerusalem. We gladly accepted the proposal, and the sum of 100 dollars (about £17) was agreed upon, while the Sheikh promised to remain with us in the Ghor till means of transport should arrive from Jerusalem. This change of route was most acceptable, as it enabled Kitchener and myself to carry out our respective surveys through the whole length of the Arabah, and saved a long and wearisome journey over the limestone tableland of the Tîh. With glad hearts we turned our steps up Wâdy Kusheibeh, and pitched our tents at the base of Mount Hor, which we determined, if possible, to climb, and also to visit Petra.

Mount Hor was an important trigonometrical station for Kitchener, and I was also anxious to examine the geology of this district. We were soon visited by a party of mounted Arabs from Petra and Wâdy Musa, who demanded most exorbitant terms for permission to visit these sacred spots, and it was only after long discussion, and striking tents with the determination to leave the spot unvisited, that anything like possible terms could be obtained. On the morning of the 10th, long before daybreak, our party set off, guided by a lantern, and made the ascent of the mountain, where Kitchener was able to make his observations. We then descended into Petra, made a hasty visit of the ruins, and, after passing through scenery of the grandest kind, reached our camp long after sunset. This expedition was attended with the most interesting geological and botanical results. On Saturday, 15th, we reached the edge of the Ghor, and descending next morning, pitched our camp in the valley, where we were visited by Sheikh Arari, and his party of mounted Bedouins, from Wâdy Musa. We consented to pay him 30 dollars for passing through a portion of his territory in the Wâdy el Arabah, but have sternly refused the

repeated demands of some of his followers for further backsheesh. Before arriving at the edge of the Ghor we had sent two Arab messengers to Jerusalem, with intelligence of our arrival, and a request that horses and mules should be immediately sent down by Mr. Cook's agent to the camp of the Ghawarnehs on which to proceed to Jerusalem. You may imagine our disappointment on receiving the intelligence, on the return of the messenger, that a rigid quarantine had been established for all parties coming from the south, and that the Turkish governor had ordered that we should proceed to Gaza, where we must pass fifteen days before being allowed to enter the city, and that the mule-drivers themselves would have to remain with us in quarantine for the same period. Unhappily for us the agent requested further instructions before sending the mules, and notwithstanding that we have sent two sets of messengers with information that we have no means of leaving this spot, we have been now ten days in the Ghor, practically prisoners. Sheikh Ali refuses to cross to the other side of the Dead Sea with us, and the Ghawarnehs have no means of carrying baggage. This delay, with the probable quarantine which may follow at Gaza, is most vexatious; but we have been endeavouring to turn our enforced delay to the best account, by making observations in the neighbourhood. Kitchener has completed his triangulation up to the south shore of the Salt Sea; Hart has added largely to the known flora and fauna of the district; Lawrence has taken a continuous series of meteorological observations; my son has taken about eighty large photos, and a good many small ones; and I have made a tolerably complete geological survey of the Wâdy el Arabah, on the enlarged map of Dr. Smith's atlas, kindly presented to me by Mr. John Murray. We are in hourly expectation of the arrival of the mules; and yesterday we endeavoured to keep up the traditions of old England by having for our Christmas dinner roast turkey and plum pudding, and we duly remembered our absent friends over our penultimate bottle of claret.

IV.

New Year's Day, 1884.

I left off my letter in the Ghor, and now conclude it from Gaza. Shortly after concluding, an Arab arrived with the happy tidings that he had seen a large party of mules and horses crossing the marsh, and that they would be with us before sunset. A loud hurrah greeted this news, and I *backsheeshed* the messenger on the spot. Towards sundown the tinkling of bells was heard, and soon after the whole *cortége* arrived at our camp. Preparations were immediately commenced for an early departure on the next day, and the amount of backsheesh to be presented to Sheikh Ali and the Ghawarneh Sheikh was arranged between ourselves and the conductor. We were astir early next morning, and soon after sunrise, mounted on our spirited little horses, we were wending our way through the groves bordering the Salt Sea. That day's march was a long one: we crossed the

marsh, examined Jebel Usdum, and then ascending by Wâdy Suweireh made our way towards our camping ground, in Wâdy el Abd, which we did not reach till three hours after sunset, making twelve hours in the saddle! The following day we camped at Tel-el-Mihl, and the day after at Bir-es-Seba, a spot of peculiar interest to us all, from its connection with the patriarch Abraham. The next day brought us to Tel Abu Harari, and yesterday (December 31st) we entered our quarantine ground in the suburbs of Gaza. We entertained hopes to the last that the Pasha of Jerusalem would have relented. But a kind letter from Mr. Moore, our Consul at Jerusalem, informed me that his efforts in this direction had been unavailing, and that our only prospect of getting out of quarantine before the lapse of the fifteen days would be by telegraphing to Lord Dufferin, with the request that he would use his influence with the authorities at Constantinople. This I have done, and we now await the result. This enforced imprisonment will cause a serious loss both of time and money, as we have to bear all our own expenses, and, in addition, those of the muleteers, and even of the soldiers who are keeping guard over us. One advantage, however, has resulted. We have been able to make a complete traverse across Southern Palestine, and in part by a road not hitherto explored by previous travellers. Our quarters here are comfortable and cheerful, and we are all in good health. Kitchener yesterday left us on his return to Cairo. I forgot to mention that on the 24th ultimo a party of four Arabs arrived from Cairo on camels, bringing a letter from the Consul-General, to the effect that he had received a telegram from the Foreign Office expressing anxiety on our behalf, on the part of the Committee, consequent on the defeat of General Hicks's army in the Soudan, the news of which it was supposed might stir up a hostile feeling among the Arabs towards Europeans. We had not before heard of this unhappy event; but it was speedily known among all the Arabs around. We took care to inform them that Hicks's army was composed of Egyptian and not of British troops. The Cairo Arabs determined to remain with us until we moved out of the Ghor, and accompanied us to Tel Abu Harari, from whence they and Kitchener proceeded to Cairo, carrying a reply to the letter of Sir E. Baring. I ought to mention that the Rev. Mr. Shapira, of the Church Missionary Society, met me on arrival yesterday, and has been most kind in giving us assistance in various ways.

V.

January 17*th*, 1884.

My last letter to you was from Gaza, where we were sentenced to be shut up in quarantine for fifteen days. I telegraphed immediately to Lord Dufferin, on the recommendation of Mr. Moore, Consul at Jerusalem, to ask his Lordship to use his exertions for our release. Owing to his active and friendly interposition, we received notice of our

release on the fifth day. This was on Saturday morning, and we were soon in the saddle to visit Gaza and its environs, and also call on Rev. Mr. Shapira, and thank him for his unremitting attention. Next day, after Divine Service in the tent, we started on our journey to Jaffa, which we reached the day following, and put up at the hotel in the German settlement. This enforced visit to Gaza must not be considered in any way as loss of time, as far as the journey itself is concerned; it enabled Kitchener and Mr. Armstrong to join up the survey to that of Southern Palestine, where it terminates at Beir-es-Seba, and it gave me the opportunity of making a geological traverse of Southern Palestine. The coast journey from Gaza to Jaffa was also of much interest to the whole party. We reached Jerusalem on Wednesday evening (9th), having slept the previous night at Ramleh, at the hotel kept by another German settler, the quarters being clean and comfortable. The ascent into the central tableland of Judæa was most interesting to us all, both on account of the geological and botanical observations it enabled us to make, and connected with our subsequent expedition down to the Jordan Valley has enabled us to make a complete traverse of what may be called the central portion of Palestine. Our journey northwards to Beyrout will complete a third traverse (Sea of Tiberias to Haifa), as well as enabling us to see much of the interior of the country. This exactly falls in with my original plans. We have been most kindly received by Mr. Moore (H.M.'s Consul), Dr. Chaplin, and several other friends of the Palestine Exploration Fund, including the American Consul, Dr. Merrill. On account of pressure of time, we have been obliged to abandon the proposed expedition into Moab, and have contented ourselves with a descent into the Jordan Valley, from which we have just returned. Our plans for the future are as follows :—

We propose to leave this on Monday morning, 21st, for Beyrout, by the Sea of Galilee, Samaria, Mount Carmel, and thence northwards by the coast road. This journey will occupy about fifteen days, and we hope on arriving at Beyrout to find a steamer which will take us to Constantinople. The quarantine, which has now been in operation for several months, has upset everything—paralysing trade, and rendering communications with other countries uncertain. There is now a prospect of its termination, and we have reason to believe that Lord Dufferin's exertions on our behalf have contributed to this much desired result. Under these arrangements we hope to reach London about the middle of February. We have despatched boxes of specimens from Jaffa, and Mr. Armstrong will take charge of some of the instruments which were brought out by us. He is now busily engaged in plotting the triangulation, and, I believe, intends to proceed to Cairo, when it is in an advanced state, in order to confer with Kitchener before returning home.

VI.

23rd January, 1884.

Our expedition has been brought to a stand in a most unexpected manner. We have been snowed up in the Sacred City since Monday, and will be unable to move till the day after to-morrow.

We had returned on Friday from our expedition to Jericho and the Lower Jordan Valley, and had everything prepared for an early start on Monday morning northwards to Beyrout, when Bernhard Heilpern came to our bedroom doors about 7 a.m., saying, "You need not get up, gentlemen; you cannot move—snow is a foot deep already." And so it was; and the fall continued during Monday and part of Tuesday, till it reached 2 feet and over in depth, and rendered all egress impracticable. Even the best road in Palestine, that is, from here to Jaffa, has been closed and the telegraph wire broken. The fall of snow was accompanied on Tuesday by a terrific gale from the west. Trees have been uprooted or broken and much damage done. However, a thaw set in last night, and continued to-day, and the weather now promises to settle. But a fourteen days' journey on horseback, over mountains and valleys, and sleeping in tents by night, is out of the question now. Even if practicable (which is doubtful) I feel I should not be justified in exposing our party to such a risk to their health. The country will be flooded for some days, the rivers swollen, and the air cold and damp in the extreme.

I have arranged, therefore, to proceed to Jaffa the day after to-morrow, when we hope the road will be practicable, and take the first boat we can get to Beyrout—thence return home *viâ* Constantinople. Even did time permit, there would be little use at *the beginning* of the winter in remaining here with the prospect of completing a survey which could only be properly done in good weather. This we might have done had it not been for our two detentions: one in the Ghor for ten days, waiting for horses from Jerusalem; the other of five days in quarantine at Gaza. This is our third forcible detention since entering Palestine, and perhaps the least to be expected—to be snowed up in Jerusalem!

The results of our expedition, however, are not materially marred by this unlooked-for obstacle. The geology of the northern portion of Western Palestine is already pretty well known, and a *reconnaissance* would not have resulted in any material alterations (as I feel sure) of Lartet's map. Our excursion to Jericho, Mar Saba, Bethlehem, &c., together with our previous traverse of Southern Palestine, have enabled me to obtain a good knowledge of the structure both of Central and Southern Palestine. Of our previous work in the district of the Wâdy el Arabah and the Sinaitic peninsula I need not say anything here.

NARRATIVE OF AN EXPEDITION THROUGH ARABIA PETRÆA, THE VALLEY OF THE ARABAH, AND WESTERN PALESTINE.

By Professor Hull, LL.D., F.R.S.

(Geologist-in-Chief.)

The work of the Palestine Survey, which had been partly completed in Moab by Captain Conder, R.E., having been interrupted through the opposition of the Turkish Government, the Executive Committee of the Palestine Exploration Fund determined to undertake a geological reconnaissance of Western Palestine and the Jordan Valley, in accordance with the programme of work to be done under the auspices of this admirable Society. The Topographical Survey of Western Palestine had now been completed and published, so that the time seemed ripe for investigating the physical phenomena of Western Palestine, the Valley of the Jordan, and of the deep depression in which lies the Salt Sea.[1] An offer to undertake this exploration having been made to me by Colonel Sir Charles W. Wilson, on the part of the Executive Committee of the Palestine Exploration Fund, I consulted with some friends regarding the nature of the countries to be traversed, climate and other matters; and having received sufficiently encouraging replies, I gladly accepted the offer, and began preparations for carrying it out:—the Lords of the Committee of Council having been so good as to grant me three months' special leave of absence from my official duties in Ireland.

I had long taken a deep interest in the physical history of Palestine. I had read nearly everything that had been written on the subject, including the great work of M. Lartet, the geologist attached to the expedition of the Duc de Luynes, and had even gone so far as to deliver a public lecture on the physical history of the Jordan Valley and the Salt Sea in the theatre of the Royal Dublin Society.[2] Little did I think, when delivering that lecture, that I should have an opportunity in a few months' time of testing the correctness of my views by actual observation on the spot! Such, however, was the case; and within a few weeks I was busily engaged in my preparations for departure for the Holy Land.

It was of first importance to choose suitable companions. The Committee kindly allowed me to select an assistant; and I gladly accepted the

[1] I prefer this name to that of the "Dead Sea," a name of much later origin, and originating in a misconception. The name "Salt Sea" (Gen. xiv, 3) is peculiarly appropriate to an inland lake of such intense salinity, and was in use at the time when the Pentateuch was written. The Arabic name for this lake is "El Bahr Lut," the Sea of Lot.

[2] An abstract of this lecture appeared in *Nature*, March, 1883.

offer of my son, Dr. E. Gordon Hull, to accompany me in that capacity, and also as honorary medical officer to the party. Captain Kitchener, R.E., then in Egypt, was nominated by the Committee to undertake the topographical survey of the Wâdy-el-Arabah, and northwards as far as the shores of the Salt Sea, so as to join up the triangulation with that of the Ordnance Survey of Palestine ;[1] and Mr. Armstrong, formerly Sergeant-Major R.E., who had taken part in nearly the whole of the previous survey, was appointed his assistant. It is scarcely necessary for me to say with what pleasure I received the tidings of the appointment of Captain Kitchener as my colleague. I was aware of his great experience in the work of the Palestine Survey, of his knowledge of the character and customs of the Arab tribes amongst whom we were to travel, and of his ability to converse in their language. All this inspired an amount of confidence of ultimate success I should not otherwise have felt, and the result proved that my confidence was well founded. In matters connected with our dealing with the Arabs I readily deferred to his judgment, which I always found to be judicious, while he often acted as spokesman in our negociations with the Sheikhs.

It was a matter of first importance to the safety of the party, and towards the attainment of our objects, that great prudence should be exercised in dealing with the Bedawins ;—at least we supposed so. The unhappy murder of Professor Palmer, Lieutenant Gill, and their companions, by the Bedawins of the Tîh, was still fresh in our memories, and sometimes caused a cold thrill when I thought thereon. Some of my more judicious friends, when speaking with me on the prospects of my journey, accompanied their congratulations and good wishes with gentle hints to beware of the treacherous Bedawin, and "to remember the fate of Palmer." They little thought, kind souls, how they were adding to my own mental anxiety, which I trust I did not allow any one to share, or even suspect. I kept it under lock and key, along with Besant's narrative of that horrible tragedy, and insisted, in reply to my friends, that the circumstances of Professor Palmer and myself were entirely different, which was undoubtedly the case, and that in the capture and execution of the murderers the Bedawins had received a lesson which they would not readily forget—such being the view that my friend and counsellor, Sir Charles Wilson, had endeavoured to impress upon me.[2]

As will be seen in the sequel, both the scope and area of the Expedition

[1] The Palestine Survey Map, published on a scale of $\frac{3}{8}$ of an inch to one statute mile, takes in the western shore of the Dead Sea as far as Sebbeh ; from this the southern boundary runs along Wâdy Seiyal, Wâdy-el-Milh, Wâdy-es-Seba, and the Wâdy Ghuzzeh, to the shore of the Mediterranean Sea, south of Gaza.

[2] The matter is very fully gone into in Besant's "Life of Professor Palmer." There can be no doubt, as we afterwards learned on the spot, that Palmer's death was planned by the agents of Arabi Pasha, and that the Arabs, who were to a man on Arabi's side, were only carrying out the orders they had received from Egypt.

were considerably enlarged as time went on. In the letter[1] of Mr. Glaisher, F.R.S., Chairman of the Executive Committee, in which the route and objects to be kept in view were definitely settled, it was stated that we were to proceed overland to Egypt, where we should be joined by Captain Kitchener, and from thence strike into the Desert of Sinai, which we were to traverse as far as the head of the Gulf of Akabah. From thence we were to proceed northwards along the whole length of the Wâdy-el-Arabah, to the southern end of the Salt Sea, and proceeding along the western shore as far as Ain Jidi (Engedi), turn up into the tableland of Judea to Hebron, from whence the officers of the Engineers were to return to Egypt, while the other members of the expedition were to preceed to Jerusalem, and organise another expedition into the Jordan Valley, Moab, and Northern Palestine. It will thus be seen that a tour of unusual extent and interest was placed within our reach, including countries and places second to none in importance from their sacred associations, their historical antecedents, and the physical conditions under which they are placed. The Committee also took care that everything should be done for the comfort and safety of the travellers. The Egyptian Government, through the Foreign Office, offered an escort as far as Akabah, the limit of Egyptian territory ; but as we had no reason for apprehension from the Arabs in the Sinaitic peninsula, we did not think it necessary to avail ourselves of the kindness of Cheriff Pasha, who had offered through Kitchener to give us every assistance in his power. The district where an escort of soldiers was likely to be of use lay between Akabah and the Salt Sea, and here the Egyptian escort would be unable to accompany us.

The party as it now stood consisted of four ; but it was obviously desirable that it should include a naturalist, who should make notes and collections of the representative fauna and flora of the district to be traversed ; and of a meteorologist, who should also make observations on the temperature, rainfall, and aneroid determinations of the levels of special points along our route. I therefore cast about in my mind for volunteers having the necessary time and qualifications to undertake those departments of research, and was most fortunate in both instances. Mr. Henry Chichester Hart, who joined us in the former capacity, had been personally known to me for several years as an ardent investigator of the flora of Ireland, having made several reports on the botany of special districts of that country, under the auspices of the Royal Irish Academy. He had also acted as Naturalist in the expedition of Sir George (then Captain) Nares, R.N., to the Arctic regions, which had penetrated as far north as 83° 14′ lat. To these antecedents Mr. Hart added uncommon powers of enduring bodily fatigue ; and he proved a most agreeable addition to our party, owing to his imperturbable good humour, and the extent of his knowledge on natural history subjects. Mr. Reginald Lawrence, Associate of the Royal College of Science, Dublin, who accepted my invitation to act as Honorary Meteorologist to the Expedition, had also been my personal

[1] Of date 7th July, 1883.

friend for several years, and from my knowledge of his antecedents and ability I felt sure he would prove the right man to complete our quorum; and in this I was not disappointed. Never, I feel sure, were six persons more happily associated in an undertaking of this kind. Throughout our whole tour the utmost good feeling prevailed amongst the members; each took an interest, not only in his own department, but in those of the others, and tried to assist in them as opportunity offered. My son, having had considerable practice in photography, undertook to bring home photographs of the district through which we were to pass, and through part of which no photographer had as yet penetrated. Our expedition was thus tolerably complete in all its branches.

It had been suggested to me by my friend Dr. W. Frazer, of Dublin, that our progress might be facilitated, and our comfort increased, if the travelling arrangements were entrusted to the well-known firm of Messrs. T. Cook & Son. This suggestion I mentioned to the Secretary to the Palestine Exploration Fund, who had an interview with Mr. John M. Cook, the managing partner of the firm, at the head office, Ludgate Circus. The result of this interview was most satisfactory, as Mr. Cook offered to undertake the whole of our travelling arrangements, whether by land or sea, to provide tents, food and attendants, and to advance money when needed to the members of the party. All this was to be done "without the slightest profit, directly or indirectly, to the firm," owing to the interest which Mr. Cook personally took, not only in the Palestine Exploration Fund, but also in the Expedition which it was about to send out.

This handsome offer on the part of Mr. Cook was accepted by the Committee, whose energies were now to be restricted to providing the instruments for carrying out the scientific work of the Expedition.

Several days were spent in London by all the members of the party in making preparations. Theodolite, compasses, aneroids, thermometers, photographic apparatus, guns, revolvers, ammunition, geological hammers, maps, suitable clothes, stationery, and many other articles had to be provided, packed, labelled, and despatched. Mr. Armstrong was to follow in a few days by steamer from Marseilles, and join us in Egypt. My son and I met the Committee in Adam Street for a parting consultation and farewell, which was very warmly given us by the Chairman, Mr. Glaisher. On the day following we all dined with my brother-in-law, the Rev. H. Hall-Houghton, at the National Club,[1] Whitehall, and on Saturday we took our seats for Dover in the train at Ludgate Hill Station, Mr. Cook being on the platform to see us off, and wish us "a good journey." We crossed the "silver streak" during an interval of comparative tranquility, and in a boat, fortunately, other than the "Calais-Douvres," so reached Paris in the evening, without having had to undergo the usual passage experiences.

[1] Mr. Hall-Houghton is a member of the General Committee of the Palestine Exploration Fund, and was present at the meeting of the Special Committee on the previous day.

We left Paris for Milan by the "through train," *viâ* Bale, on Sunday evening. Our train was to have been in connection with another leaving Bâle about noon, but as we approached this city our progress gradually approximated to a walking pace. With a view, doubtless, to reciprocity, as we got impatient the train slackened pace, with the not unexpected result that we were late for the train into Italy. The day was wet and cold, and in order to pass a part of it in motion we took the next train to Lucerne, hoping for a change. But this beautiful city was draped in sombre garb. A canopy of cloud shrouded from our view the mountains, while a ceaseless drizzle damped our desire for sight-seeing. Some of the party, however, visited the remarkable "glacier garden" near the city; and after dinner at the hotel we were glad to find ourselves again in the train, notwithstanding the disappointment of being obliged to cross the Alps at night. But though night, all was not dark. As we ascended the mountains towards the St. Gothard Tunnel the canopy of cloud melted away, and about midnight the moon and stars shone forth, illuminating the snowclad heights on the one hand, and throwing into still deeper shade the ravines and frowning precipices along which we threaded our way. On issuing forth from the tunnel on the Italian side, and as break of day approached, we found the sky clear, and we descended into the plains of Lombardy amidst a blaze of sunshine, which cheered our spirits; and under such circumstances we drove through Milan, visited the Cathedral, and in the afternoon took our seats in the train for Venice, which we reached after dark. It was a new experience for all of our party but myself to find ourselves seated in a gondola, and piloted along through the canals—under numerous archways, and alongside the dark, mysterious walls of houses, churches, and palaces, to the steps of Victoria Hotel, where we were soon comfortably housed, to await the departure of the P. and O. steamship "Tanjore" for Egypt on the following Thursday.

We endeavoured to put our time to good account, and see as much of the "Queen of the Adriatic" as possible. I found that my former visit had in no way lessened the pleasure of a second visit, and I saw and heard much that had escaped me previously. Engaging the services of a very efficient guide, who informed us that he had accompanied Mr. Ruskin when collecting his materials for "The Stones of Venice," we made a very full examination of the Palace of the Doges, the Duomo of St. Mark, and other sights of this wonderful city; and in the evenings we sipped our coffee under the collonade of the Piazza, listening to the music of a very fine military band, or gazing with wistful eyes into the brilliantly lighted shops, so eminently calculated to elicit the last lira from the pocket of the beholder. Though we made some purchases, I fear our stay in Vienna did not add materially to the wealth of the city. We recollected there were bazaars in the Eastern cities we hoped to visit with objects of still greater novelty than those even of Venice.

Owing to the quarantine regulations, the "Tanjore," Captain Briscoe, was unable to come up to the Grand Canal, so we left Venice in a steam launch, in which we were conveyed down through the lagoons to the place

in the bay where our good ship rode at anchor. We passed several islands and forts, amongst others one built by the Genoese in the fourteenth century. Several others, rising from the lagoons, were erected by the Austrians in 1859–60. These lagoon islands are in some cases of vast extent, and are covered by the waters of the Adriatic when the wind blows strongly from the south. In 1875, on the 5th January, a south wind banked up the waters till they overflowed most of the islands, and for two days the Piazza of St. Mark was submerged to the depth of from 4 to 5 feet.

We found the "Tanjore" crowded with passengers when our contingent had come on board. These included General Sir Evelyn Wood and party returning to Egypt, and several persons bound for that country, as well as for Cyprus and India, whose company we enjoyed till we reached Port Saïd. In the evening we weighed anchor, and steamed down the nearly smooth waters of the Adriatic, often out of sight of land, but sometimes with distant views of the coasts and islands of Italy on the one hand, and of Dalmatia on the other. One of the islands, called "The Half-way Rock," rose as a sharp ridge, apparently of limestone, from deep water.

Early on Saturday morning, we steamed into the harbour of Brindisi as far as the coaling depôt of the P. and O. Company, and we had all to turn out of our berths pretty early, in order to pass muster before the medical officer, who was pleased to give us "a clean bill of health," without a very strict *diagnosis* of each case. On this and a subsequent occasion I had an opportunity of observing the absurd nature of quarantine regulations. Like the passport system, that of quarantine only seems to give to travellers gratuitous trouble and expense, without accomplishing the object for which it is supposed to be instituted. How this was illustrated in our own case will be noticed in the sequel. In the case of the "Tanjore," it was so long since she had left Egypt (from which the cholera had almost disappeared) that any case on board would have manifested itself long ere she had entered the Venetian waters; yet she was not permitted to enter the harbour, and her passengers coming from the west and north of Europe, where cholera had never entered, were subjected to inspection on reaching Brindisi![1]

We spent Saturday and Sunday in this port, awaiting the arrival of passengers and mails for Egypt and India. The time was agreeably occupied in visiting the town and surrounding country in company with one or two friends, amongst whom I may be allowed to mention the name of Mr. Sinclair, R.E., Secretary to the Governor of Cyprus, Sir R. Biddulph. Both the plants and animals of this neighbourhood indicate

[1] That Egyptian cholera comes, not from India, but from Mecca and Mina, and is generated amongst the thousands of pilgrims who annually are collected for several days within an exceedingly limited area, where they are subjected to the effects of breathing foul air, drinking corrupted water, and living in filth and privation, will be conceded upon reading the "Rapport sur la dernière épidémie de Choléra à la Mecque," in the *Gazette Médicale d'Orient*, September, 1883, by M. le Dr. Abdur-Rassack.

an approach towards those with which we were afterwards to become familiar in Egypt. The low cliffs of the shore, formed of yellow tufaceous limestone, abound in shells of late Tertiary age,[1] some identical with those of the adjoining waters, while the ground swarmed with bright green lizards, beetles, and ants; butterflies, wasps, and flies also floated about in the air, giving abundant occupation to Mr. Hart in collecting specimens and noting their habits. One peculiar species of wasp here lays its eggs in little balls of mud, in which the larvæ may generally be found.

The sub-tropical vegetation of the district is remarkably rich. Here the graceful date-palm waves its plumes aloft, amidst groves and gardens of olive, figs, oranges, vines, mulberries, and stone-pines. The eucalyptus has been introduced and planted extensively along the roads, while the hedgerows are formed of the bristling lines of the large cactus (prickly pear) and aloes. The cotton-plant is cultivated in ground which can be flooded, while oleanders, myrtles, and other foreign plants adorn the gardens.

The town itself, the ancient Brundusium, visited but scarcely seen by thousands of travellers annually, is of much interest, from its position and history. It stands on an inlet of the Adriatic, and the harbour, of great importance in Roman times, is capable of holding large ships. The harbour is connected by a causeway with a fortification, or castle, standing on the summit of a cliff to the south of the town, and in a commanding position. This is now used as a prison, and the inmates are usefully employed in a variety of reproductive works, such as carpentry, smiths' work, tailoring, &c., at which we found them busy when visiting the place on the afternoon of our arrival. There is a ditch and wall, with towers and gates, erected by the Emperor Frederick Barbarosa, probably on the site of more ancient structures, and amongst the remains of Roman work are two marble pillars, one broken, at the end of the Appian Way.

The country inland consists of an extensive plain, about 200 feet above the sea, richly cultivated in crops of maize, wheat, and cotton, with farmsteads surrounded by gardens of olives, figs, and vineyards. This plain is traversed by the high roads to Rome and Naples, and several ancient fountains, doubtless coming down from Roman times, still afford water for thirsty men and animals by the wayside. The plain, formed of shelly limestone, beds of marl, clay, and sand, was at a very recent geological period the bed of the sea, and its uprising has added thousands of square miles to Italian territory.

On Sunday morning Captain Briscoe held Divine Service in the cabin, and read the prayers and lessons with that solemnity and effectiveness sometimes wanting in the more regular services of the Church; and at 3 o'clock on Monday morning we steamed out of the harbour.

We soon passed from the deep indigo-blue waters of the Adriatic to those of the Mediterranean, which are of a greener tinge, not unlike those of the Atlantic. The voyage was very agreeable, and we only once came

[1] Pliocene according to Collegno's map.

in for a gale, which did not last very long. The view from the deck of the "Tanjore" on Monday towards the north-east was always striking, even at the distance from the land at which we sailed. The bold and rocky mountains of Albania stretched away for miles from left to right, beyond which, at a distance of over thirty miles, might be seen the mountains of Greece, the sun lighting up the peaks and lines of escarpment of white limestone of Epirus, with the island of Corfu in the foreground. Towards evening the coast of Cephalonia and Zante came in sight.

Awaking next morning, we found ourselves approaching Crete (Candia) and now a stiff gale was blowing from the north-east. Rain also was falling, and we began to feel tolerably miserable. The breakfast table was not quite as fully occupied as usual, and some of us found it convenient to retire to our cabins before we had had time to partake of a hearty meal. However, about tiffin the gale moderated, and we returned to the deck to watch the scenery of the island, along whose coast we were sailing at a distance of about twenty miles. This island (as is well known) is mountainous, the peaks of Mount Ida rising to 7,674 feet, and on this day cloud-capped; the sides being cut into deep ravines, clothed with a slight forest vegetation. The sunshine effects were sometimes very beautiful, the higher elevations being so brightly white as to resemble the snow-clad summits of the Alps. Towards evening the sky presented a grand spectacle. Overhead the stars shone forth from the dark blue sky, but from time to time the clouds which hung over Crete were illumined by brilliant sheets of lightning often bursting forth from behind the mountains like the flames of a volcano in active eruption. This scene lasted several hours, while brilliant meteors from time to time streamed across the heavens. The beauties of the sky were so enticing, and the air so balmy, that it was with regret we turned into our berths late at night.

Land now disappeared from view, and we bid farewell to Europe; the blue ring of the horizon was unbroken during the next day. After sunset I went to the bow of the ship to watch the effect produced by the medusæ when tossed up in the foam of the ship's prow. It is a sight full of beauty. Each sheet of white foam, as it was cast aside by the ship's side, was lighted by a thousand silver sparks caused by the phosphorescence of these pretty little creatures, quite invisible to the eye by daylight. I was told that sometimes dolphins may be seen disporting themselves amidst the shoals of medusæ, but on this occasion we were not so fortunate as to see any. On the 1st November we entered Port Saïd at 10 a.m., and for the first time touched the shore of the African continent; I trust, with thankful hearts for all the mercies we had received.

Slowly we steamed up the harbour towards our anchorage, passing a line of steamships of several nations, chiefly British. On passing an Egyptian man-of-war we received a salute (presumably in honour of General Sir E. Wood, but the question has not been decided!) the men standing all along the bulwarks with hand to hand horizontally extended, looking like so many human crosses clad in white, or like shirts hung out to dry. Soon after, a state barge came alongside to take Sir E. Wood and

his party off for Ismailia. It was unfortunately completely filled, so that there was no room for us—doubtless a matter of profound regret to the General, who took his departure amidst much shaking of hands and waving of handkerchiefs. Leave-taking now became general all round. Our passengers broke up into parties for their respective destinations, and at length we tumbled overboard into a boat and rowed for land with the gloomy prospect of a night sail up the canal in a passenger steam-barge amidst a crowd of unsavoury Moslems. Our baggage was carried to the hotel by porters whose powers of endurance seemed little short of those of mules or camels. Mountains of heavy baggage, calculated, one would have supposed, to crush them to the earth, were piled on their backs. All hands helped the men to their feet, and off they started for the Custom House amidst the shouts and gesticulations of their comrades. We were, however, spared the annoyance of unpacking our baggage; the Director-General of Customs having, through Mr. Cook's agent, sent instructions to pass all our baggage and effects unexamined.

During dinner we made a discovery which relieved us of our difficulty. We learned that a P. and O. steamer was to leave Port Saïd at 4 o'clock for Alexandria, and we resolved to take passage in her, and by this way to go on to Cairo. The "Dakatlieh" was airy and not very full of passengers, and after the close packing of the "Tanjore" we felt very comfortable indeed. We had a good night's rest, and were up betimes to view the African coast, evidences of which first appeared in the distant lines of feathery palms. We had been coasting for many miles off the Delta of the Nile, and all along our track the waters of the Mediterranean had changed their ordinary deep blue into a light greenish tinge, in consequence (as I was informed by Mr. Le Mesurier, of the Egyptian Railway Department) of the influx of the Nile waters.

It is unquestionable that the Nile carries down large quantities of mud into the Mediterranean, which is taken up by the prevalent eastward current, and finds its way into the harbour of Port Saïd, where dredging operations have constantly to be carried on at heavy cost in order to keep the channel of the required depth. The Damietta branch of the Nile may, from its position with reference to Port Saïd and the ship-canal, be considered the more immediate cause of the silting up of the canal bed.

This source of expense and danger to the navigation Mr. Le Mesurier proposes to meet in the following way[1]:—It will be observed on referring to a map of the district, that between the harbour of Port Saïd and the Suez Canal on the one side, and the Damietta branch of the Nile on the other, lies the great inland lake of Menzaleh, through which the canal has been carried, chiefly by dredging, for a distance of twenty-seven miles. The portion west of the canal still remains under water, but that to the east is now dry. This western portion, covering an immense area, Mr. Le Mesurier proposes to convert into a great precipitating basin for the Damietta branch,

[1] The project I only give in outline, as kindly communicated to me by Mr. Le Mesurier himself, during our stay on board the "Tanjore."

the effect of which would be *ultimately* to convert this tract into a vast field for agricultural purposes, while the waters which would pass off into the Mediterranean, being to a great extent deprived of their silt, would cause *immediate* relief to the harbour of Port Saïd, and that part of the canal which opens into it. This is a grand scheme, calculated to be of benefit both to the agricultural and commercial interests of Egypt. I can only express the hope that Mr. Le Mesurier may have the happiness of seeing it one day put into execution.

On approaching Alexandria, a pilot came on board to steer us through the intricate channel by which the harbour is entered; and on rounding the point of the large breakwater, we came in view of the city and its harbour[1] all at once, a view calculated to afford both pleasure and surprise,—pleasure at its beauty; surprise, that a harbour and city so recently the scene of a tremendous bombardment should, at first sight, present such slight traces of the conflict. In front lay the city, built on a gradually-ascending slope, and in the background to the left the elevated and fashionable suburb of Ramleh. On the left of the harbour, the Fort of Pharos, partly in ruins, and lighthouse, the Palace of Ras-et-Teen, white and glistening in the sunshine, and surrounded by pleasant gardens. On the right, the barracks, fortifications, and lighthouse and other public buildings; and in the distance, the noble column known as "Pompey's Pillar." The harbour itself was gay and busy; ships of many nations lay at their moorings, both merchantmen and passenger steamships; while the beautiful yacht of the Khedive swung at anchor in the centre. The surface of the water swarmed with smaller craft and barges, amongst which was one to convey on shore Her Majesty's Consul, Mr. Cookson, who had made the passage with us from Suez, and whose acquaintance we had the pleasure of making. He kindly insisted on sending us ashore in his barge, and told off his *khawass* to accompany us to our hotel, and afterwards to conduct us over the palace and fortifications. Owing to this kind action on the part of Mr. Cookson, we were enabled to see the principal sights of this ancient city to the best advantage; nor did his servant leave us till he had seen us off in the train for Cairo in the evening.

We found much of the city in ruins—ruins caused by the mob, not by foreign guns; and, as much uncertainty prevailed as regards the future of Egypt, restoration and rebuilding were proceeding but slowly. It only required the British Government to make the announcement that at least a contingent of our troops should be allowed to remain in Egypt for the preservation of order to induce capitalists to come forward and commence building. But this the Government had hesitated to do, and confidence in the future was consequently shaken. Who that knows Egypt can doubt that a permanent protectorate, supported by a sufficient British army, would prove a blessing of incalculable value to the country?

No object in Alexandria interested me more than the noble monolith

[1] The city has two harbours—the western or Eunostus, and the eastern, or New Port. We entered the western.

known as "Pompey's Pillar." The name is misleading, as one naturally associates it with that of the great Roman General; but, as the Greek inscription shows, it was erected in honour of Diocletian during the prefecture of Pompeius, in the year 302.[1] But whatever its origin, its immense size and beautiful proportions strike the beholder with admiration. Like most of the Egyptian monoliths, it is of red porphyritic granite, 73 feet in length, with a circumference of 29 feet 8 inches, highly polished, standing on a pedestal, and surmounted by a capital 16 feet 6 inches in diameter, giving a total height of very nearly 100 feet to the monument. It may well be doubted whether a monolith of this description belongs to the epoch of the Roman occupation. It is far more likely that its origin dates back to that period of very ancient Egyptian art which gave birth to the obelisks, the Sphinx, and the Great Pyramids. Its original birthplace was amongst the granite quarries of Upper Egypt, and whether hewn fresh from the native rock, or taken from some more ancient structure, it was a work of no small skill to transport it from its original site and erect it upon the elevated platform of solid limestone from which it is visible for miles in almost every direction.

It is to be hoped that Pompey's Pillar will defy the cupidity of foreign states. Within a few years the two companion monoliths of the ancient city have been carried away: one to adorn the banks of the Thames, the other those of the Hudson. Who that visits the modern cities of Europe, and witnesses the monuments of ancient Egyptian art, of which that country has been stripped, in order that *they* may be adorned, can restrain a sigh of regret at the spoliation of the land where art of the grandest conception had its birthplace and its maturity while that of Greece and Rome was still in the future?

We left Alexandria in the afternoon, in company with an officer of the army of occupation, and travelled along a route, to us, new and full of interest. The railway at first passes along enormous mounds of broken pottery. And here I may mention that in the East, often when all traces of buildings have disappeared, fragments of pottery remain to attest the former existence of buildings. The reason of this is that pottery is almost indestructible. Houses, temples, churches, may have been laid in ruins, the materials broken up and carried away, but a "potter's vessel" when once broken is useless for any purpose; no one cares for it, and it is left to add to the accumulations which take place at every town or village.

Soon we emerged on the Garden of Egypt, the fertile Delta of the Nile, without which, indeed, Egypt would be but a rocky or sandy desert penetrated by a deep gulf, as the Egyptian priests informed Herodotus was its original condition. Interminable fields of maize, cotton, sugarcane, and other produce cultivated by the fellahin, succeed each other, irrigated by means of little water-wheels, sometimes worked by men, sometimes by bullocks, the water carried in little channels made by the feet, and allowed when required to flow over the beds containing seed; all probably very

[1] The inscription is given in Murray's "Handbook for Egypt," Part I, p. 132.


SKETCH MAP
to show the
ROUTE OF PROF. HULL'S PARTY
1883-84.
English Miles.
10 5 0 10 20 30 40 50 60
Route of the Expedition
32°
33°
34°
35°
36°
MEDITERRANEAN SEA
Damietta Mouth
Port Said
Suez Canal
Mc Carmel
Sea of Gennesareth
Shechem
R. Jordan
Jaffa
Ramleh
Jericho
Askalon
JERUSALEM
Camp
Bethlehem
Pools of Solomon
Gaza
Camp
Beersheba
Camp
W. el Malh
THE SALT SEA
E. Safieh
Camp
Camp
Camp


CAIRO
Pyramids
The Bitter Lakes
SUEZ CANAL
Suez
Moses' Wells
W. Sudur
Kala't Nakhl
PLATEAU
OF THE
TÎH
W. Gharundel
W. Hamr
W. Nasb
Ain el Achdar
W. Berrah
W. Sheikh
M. Serbal
M. Sinai
J. Katarina
GULF OF SUEZ
W. el Ain
J. Aradeh
W. Biyar
W. Z. Lagah
Camp (20 Nov.)
GULF OF AKABAH
WADI EL ARABAH
Camp
J. Haroun (M. Hor)
Petra
Camp (7 Dec.)
W. Gharundel
Akabah
RED SEA
30°
29°
28°
32°
34°
35°
Longitude East 33° of Greenwich

E. Weller.

much as in the time of Ptolemy, if not even earlier. Groves of the date-palm, with enormous clusters of ripe fruit, rose aloft above the level of the Delta, or formed small clumps near the villages.

The cultivation of the palm, and of other fruit trees, was largely extended by Mehemet Ali, who made a decree promising remission of a certain amount of taxation for each tree planted. This had the desired effect. On producing a certificate of having planted so many trees the fellahin had his taxes reduced. Some time after, when the work of plantation had been accomplished, the decree was repealed, and a tax was put on the trees—a financial operation both beneficial to the Government and to the cultivator, who enjoyed the fruits of his labour.

We passed several towns and villages of the fellahin ; of the latter nothing can be conceived more miserable as human abodes, in comparison with which a village in Connaught might be considered handsome. The houses consist of small mud cabins, huddled together, in which men, women, and children share the space with dogs, fowls, and pigeons. The cow or donkey does not require shelter at night in this part of the world, so is excluded from the home circle.

We crossed two branches of the Nile, each about as wide as the Thames at Kew, the water of which was as usual turgid. The water had fallen to 6 feet below its maximum, which it reached about the middle of October. The origin of the fine sediment which the Nile always carries in suspension, as well as of the rise and fall of the waters themselves, is now fully understood since the publication of Sir S. Baker's remarkable work.[1] Briefly stated, the origin is somewhat as follows :—The Nile below Khartoom consists of one undivided stream, but at El Damer, about 170 geographical miles lower down, it receives the waters of a great tributary, the Atbara, descending from the highlands of Abyssinia. This river undergoes the most extreme transformations. During the early months of the year the waters are so reduced as sometimes to form only a series of great stagnant pools, in which are collected in very close quarters all the inhabitants of its waters, consisting of fishes, crocodiles, and huge tortoises. The banks, through a long line of country at the base of the mountains, are formed of masses of mud and silt, easily undermined, and liable to fall into the waters on the rise of the river. About June tremendous thunderstorms, accompanied by a deluge of rain, break on the Abyssinian highlands. The waters of the Atbara rise with extraordinary rapidity, and descend with a roar like that of distant thunder, giving warning of the approaching deluge. Soon the channel is filled up with the flood, the banks of mud are undermined, and fall down in large masses into the waters, where they are speedily broken up and converted into silt, the finer portions of which are carried along, and finally enter the Nile, and impart to its waters much of the turgid character for which they are known in Lower Egypt.[2] The

[1] "Nile Tributaries of Abyssinia," p. 52.

[2] A good deal of sediment is also brought down by the Bahr-el-Azrek, or the Blue Nile, some of the sources of which also are found in the Abyssinian highlands.

river now becomes a great fertilising agent, and when allowed to flow over the cultivated fields, imparts the necessary moisture, so that under the influence of a powerful sun from two to three crops can be annually gathered off the land; giving rise to an extraordinary amount of natural wealth. That this sediment originally caused Lower Egypt to be reclaimed from the Mediterranean Sea was known to Herodotus, who calls this country "the gift of the Nile."

Arrived at Cairo one of the first arrangements to be made is for a visit to the Pyramids, always a memorable event in any man's life. After all that has been written upon these grand monuments of Egyptian art it might appear presumption to attempt to add even a small quota of information; still, at the risk of such an imputation, I venture to give a brief account of my own impressions.

The drive out from Cairo is very charming. Having crossed the river the road runs along its bank for several miles under the shade of overhanging branches of the Nile acacia, and fine views of Cairo and of the range of the Mokattam Hills behind are obtained. Here we happened to meet the Khedive and his retinue on returning from his morning drive, and further on we turned in at a gate leading past the palace built for the Prince of Wales, through groves of oranges, lemons (just beginning to ripen), fields of maize, sugarcane, and cotton. Another turn brought us to the causeway, which runs in a straight line westward towards the base of the platform on which the Pyramids of Cheops and Ghizeh are built, and from which the first view of them is obtained. The first view will probably disappoint the traveller, for the distance is greater than he thinks (owing to the tranparency of the air); consequently the structures appear smaller than is really the case. The avenue itself is three miles long, in a perfectly straight line, over-arched by acacia trees, whose shady boughs, laden with large fruit-pods, afford a grateful shade from the sun's rays.

The best view of the Pyramids is obtained from a part of the causeway road, about half a mile from the platform on which they are built. From this point the four principal Pyramids are seen ranged in line; that of Cheops, or "the Great Pyramid," in front; that of Ghizeh next, and two much smaller ones in the rear. In the background is the ridge of sand which marks the line of the desert, stretching on either hand for miles.

It is well known that these great tombs of Egyptian monarchs are built on a platform of the nummulite limestone, which was partially levelled for the foundation, but which has never been entirely cleared from the accumulated rubbish. This platform of solid rock marks the limits of the Nile Valley. On driving up to the summit of the platform you are immediately beset by a crowd of importunate Arabs, who have mastered sufficient of your language to make you understand that independent action is out of the question, and that you may as well resign yourself submissively into their hands. Having done so, and decided whether you will ascend to the summit or descend into the vast interior, you get breath to cast your eyes upwards along the face of this jagged mountain



side, *as it now appears*, and to appreciate in some measure the vastness of its proportions.

The Pyramids you behold are, however, very different from those of the time of Herodotus. In the first place you perceive that the Great Pyramid is truncated, instead of ending in a point like its neighbour, that of Ghizeh. Again, you observe that the apex of Ghizeh is cased in smooth stone while the whole exterior of the Great Pyramid is formed of step-like rows of masonry. It was not thus that the Egyptian architect handed over his great work to his monarch; for in 1837 Colonel Howard Vyse discovered two casing stones in position, which may now be seen. They are blocks of limestone, 8 feet 3 inches long and 4 feet 11 inches in perpendicular height,[1] and indicate that the whole exterior was encased by polished blocks, giving it a perfectly smooth and glittering surface, well calculated to protect the building from injury, and to give it an aspect of finish and completeness very different from that which it now presents.[2]

The act of vandalism which has deprived the Pyramids of their outer casing was perpetrated by the Caliphs, who carried away the stones to build the mosques of Cairo; the result being that the general appearance of the exterior gives one the impression that this most ancient of buildings is rapidly disintegrating and destined to fall to pieces in the course of ages. This is no mere fancy. Let any one examine closely the condition of the outer walls, and he will find that they are penetrated by cracks and little fissures in all directions, along which the stone is crumbling away. These are due, I believe, to the expansion and contraction occasioned by the great changes of temperature between day and night; and the consequence is, that when a thunderstorm breaks over the district, as sometimes happens, the loosened pieces are washed down, and fresh surfaces for the sun to act upon are exposed. In course of time, therefore, the Great Pyramid, as well as that of Ghizeh,[3] must become a ruin; and for this the only remedy is re-casing.

All our party but myself elected to ascend the summit—I to visit the interior, in hopes of recognising some of Professor Piazzi Smyth's marks and determinations; so, delivering myself into the hands of four Arabs, I dived into the dark passage. This is an undertaking which (as Miss Martineau observes) no one should attempt who is at all of a nervous temperament. You soon begin to repent of your choice when you find yourself within the dark walls, descending deeper and deeper, two savages before and two behind. Occasionally they stop, and put the question, "How you feel, sir?" to which, of course, you reply, "Oh, quite well!" Inwardly you *feel* quite the reverse, but it is no time to allow the slightest hint of timidity to escape. At length, after an indefinite descent, and another equally indefinite ascent, you find yourself in the great interior

[1] Murray's "Guide," Part II, p. 246.

[2] It is stated by Abd-el-Lateef that the casing stones were polished and covered with inscriptions.

[3] The upper part of Ghizeh is still cased with its original polished blocks; hence its apex is pointed.

called the "King's Chamber," dark and oppressive, notwithstanding the flickering of the candles which your guides carry; and now they take advantage of their opportunity: they demand *bakhsheesh*, produce various "*antiqua*," generally shams, and strive to make you purchase on the spot. Making a virtue of necessity, I promised bakhsheesh all round, and that I would make certain purchases upon getting to the open air, it being manifestly impossible to examine these articles with the aid of their gloomy light. This satisfies my tormentors, and after a hasty glance all round, we commence our outward descent, and at length emerge into the dazzling light of day. My guides again produce their "*antiqua*," demand their *bakhsheesh;* but now it is *my* time to make terms. Seating myself on a stone, I proceed to select what I wish, and to name my own price; and finally, with a franc each for *bakhsheesh*, send them about their business.[1]

The Pyramids are built of nummulite limestone—not hewn on the spot, but brought from quarries situated at the base of the hills ten miles above Cairo, on the right bank of the Nile. The quarries are of vast size, as I was informed by Dr. Schweinfurth; and one may see the tokens of the care exercised in selecting the stone, soft portions being left, the harder cut out for blocks. The lines drawn by the overseer for the workmen are also visible on the walls. The blocks were transported on a sloping causeway to the water's edge, floated across, and then hauled up a long similar causeway, still in existence, on the opposite side to their destination.

The Sphinx is, however, sculptured out of the native rock, and the horizontal lines of stratification are too plainly visible.[2] The head is of harder material than the neck, which is formed of softer and whiter strata. Every one must regret the defacement which this grand work of Egyptian art has undergone; but knowing the custom of Mohammedans to deface all objects which they consider idolatrous, it is not difficult to trace the cause for this act of barbarism.[3]

The so-called Temple of the Sphinx must excite the admiration of every beholder. It consists of a series of vast rectangular chambers, cut out of the solid limestone, with recesses for tombs. The walls are lined with massive blocks of the red granite of Syene, beautifully cut and polished, and fitting closely. One of the walls lies exactly north and south, so that when the shadow of the sun is coincident therewith it is noonday.

In this temple (as I was informed by one of the guides) Professor

[1] There are three execrable words which were constantly cropping up during our journey, and of which travellers should beware, viz.: "bakhsheesh," "antiqua," and "quarantina." The language would be improved if these were expunged from its vocabulary.

[2] Our witty, but not very accurate guide, Mark Twain, says the sphinx is made of granite!

[3] As witness the defacement of the greater number of the statues in the Museum of Antiquities, Constantinople.

Smyth spent much of his time when engaged in making his measurements for his well-known work.[1]

When passing through Alexandria we had the pleasure of making the acquaintance of that indefatigable traveller and excellent geologist, Dr. Schweinfurth, to whom Mr. Hart had a letter of introduction. Having arrived at Cairo just after ourselves, he kindly offered to accompany us on a visit to the Mokattam Hills, at the base of which the city is built, and from which the stone for the construction of the houses and public buildings has been chiefly obtained.

This range of hills, though of no great elevation (600 to 700 feet), forms a fine background to the city, as well as to the Valley of the Nile, owing to the abrupt and scarped face it presents towards the north and west. It is composed of beds of the nummulite limestone, remarkably fossiliferous, both nummulites, shells, echini, and even fossil crabs being abundant. The quarries are of great extent, and the stone beautifully white, or slightly yellow, and capable of being chiselled into fine mouldings and architectural forms. From the summit of the ridge, which had been the sanitary camp of the British troops during the outbreak of cholera, we enjoyed an extensive view, and one full of variety and interest. To the right, at our feet, lay the capital of Egypt, with the streets, palaces, mosques, and churches, interspersed with gardens and groves of trees; and in the foreground, standing on a projecting platform, the citadel and the mosque of Mehemet Ali, with its exquisitely graceful minarets. To the left, and washing the eastern base of the hills, stretched the green and fruitful plain of the Nile; the great river itself carrying its channel from side to side, and crossed opposite the city by the bridge we had passed over the previous day. Looking across the valley, the horizon towards the west is bounded by the yellow ridge of the desert sands, in front of which, as if to mark the boundary between the region of verdure and that of drear sterility, are planted the Pyramids, in grand procession, headed by the greatest and oldest, those of less stature and of more recent date bringing up the rear throughout a tract of many miles up the river side. Away towards the north might be seen the plain of the Delta, with its green illimitable fields, and frequent groves of palms. From no other spot, perhaps, can the mind become so fully impressed by the fact that to the Nile, and the Nile alone, does Egypt owe all she has of fertility and wealth. Beyond is the desert of sand, a sea-bed without its animate forms, lifeless and waste. As Dean Stanley has well observed, the Nile, as it glides between the Tombs of the Pharaohs, and the City of the Caliphs, is indeed a boundary between two worlds.[2]

Under the guidance of Dr. Schweinfurth we were able to see the

[1] "Our Inheritance in the Great Pyramid." However much, in this hypercritical age, one may feel inclined to doubt some of the conclusions at which this author has arrived, every one must admire the labour and enthusiasm with which he endeavoured to work out a great problem.

[2] "Sinai and Palestine," Edition 1873, Introduction, p. xxxiv.

most satisfactory evidence that at a very recent period, and while the shells of the Mediterranean and Red Seas were still unchanged, all the great plain we have been contemplating was submerged to a depth of over 200 feet. At about this level the limestone rock is bored by *Pholades*, and shells now living in the neighbouring seas are to be found imbedded in sand and gravel which then formed the shores; while the coast-line was defined by the cliffs, which rose some 400 feet above the waters. The sand-beds with large *Clypeasters*, which occur south of the Pyramids, indicate the position of this sea-bed on the opposite side of the Nile Valley. How great has been the change since then! But long ere the foundations of the Pyramids were laid, the sea had receded to a level perhaps not very different from that at which it stands to day.[1]

On ascending towards the summit of the ridge we visited several enormous caverns sufficiently large to shelter an army, which occur on both sides of the valley, and at an elevation of about 500 feet above the sea. These caverns are hollowed in the limestone rock, and evidently not by human agency. They afford a suitable retreat for the rock pigeons, which we started from their nests. Dr. Schweinfurth considers these to be ancient sea-caves, and if this be so the land has been still further submerged within a very recent period. On the summit of the plateaux we reached one of the entrenchments of the army of Arabi Pasha, and at a short distance further, towards the east, the British station for making observations on the recent transit of Venus. The spot is marked by a block bearing the following inscription :—

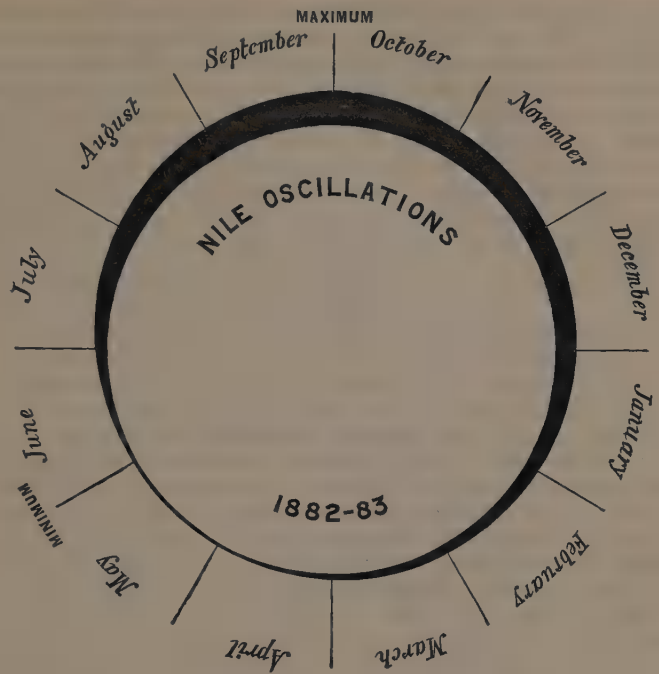
CAPTAIN GREEN, R.E., 1883.

Next in interest to the Pyramids we may place the Museum of Egyptian Antiquities at Cairo, a collection of surpassing interest and variety, illustrative of ancient Egyptian art, collected mainly through the instrumentality of Mariette Bey. The museum stands by the banks of the Nile. It unfortunately happened that at the time of our visit the Director, to whom I had a letter of introduction, was absent, and the official catalogue had not then been published,[2] but with the aid of either "Murray" or "Baedeker," and the inscriptions accompanying the objects themselves, the visitor need be at no loss.

In this place I may refer to the Nile oscillations. On the wall of Shepherd's Hotel is to be seen a map, or diagram, upon which is represented the oscillations of the waters for each year as it comes round. Those for the year 1882–3 were as follows :—

[1] To this physical fact in the history of the Nile Valley I shall have occasion to allude further on; and the detailed proof must appear in another place. It is only necessary here to give the general result. When we say that the sea has receded, this is owing to the land having been elevated.

[2] But has since, as I see by a recent review in the *Times*.



Elevation.	*Months.*
Minimum	May. June.
Slight increase	Latter part of June.
Rapid increase	July. Middle of August.
Slight increase	Middle of August. „ September.
Maximum	End of September.
Slight decrease	Middle of October.
Rapid fall	End of October. November. December.
Gradual decrease	January. February. March. April.

On Monday, 5th November, our Arabs and camels mustered for inspection in an open space of ground not far from our hotel, and we went out to visit them and to have our first experience of bestriding a camel's back. There were about forty in all—some with saddles for riding, these

being slight and young-looking; the others with nets and ropes for baggage. The men belonged to the Towâra tribe, of whom the head Sheikh Ibn Shedid, resides permanently in Cairo.[1] I liked the faces of the men, which were open and good-humoured, and felt confident we should be perfectly safe under their charge, a confidence not misplaced by subsequent events. The Towâras occupy the whole of the Sinaitic promontory south of the Tîh plateau. They are divided into five branches, of which the Szowaleha is the largest; next the Aleygats, then the El-Mezeine, the Ulad Soleiman who live near the town of Tor; and last, the Beni Wassel, a very small branch near the south-east coast.

The Towâras are a peaceable tribe, friendly to travellers, and had no part in the murder of Professor Palmer and Lieutenant Gill. Their Sheikh, on the contrary, was instrumental in bringing four of the culprits to justice, and accompanied Sir C. Warren into the desert to effect their capture.[2]

The negociations for our escort had been effected between Messrs. T. Cook & Sons' agent at Cairo and the Abbot of the Monastery of St. Catherine, and by him our men and camels were sent over to Cairo, from their home in the Wâdy Feiran, in order to receive their baggage loads, and to pass inspection; and they had arrived outside the city the evening before we saw them in the space near the hotel. In the course of the day the whole procession with their loads passed in front of our hotel, and afforded a sight probably not very novel to the residents, but to us not only novel, but of considerable interest. The camels upon which we were to ride were bestrode by their respective drivers, then came others with barrels of flour, barrels for water, the tents, five in number, rolled up into the most compact dimensions, boxes of provisions, our camel trunks, crates with live turkeys and poultry, and other matters too numerous to mention in detail. We were not again to see them until our arrival at the landing stage near Ain Musa, on the eastern side of the Gulf of Suez, to which place we intended to proceed by rail and boat.

On the morning of 8th November we left Cairo by rail for Suez, passing by Zagazig and Tel-el-Kebir, where Arabi Pasha had made, a few months previously, his most determined, but ineffectual, stand against the British arms. As far as Zagazig the country is richly cultivated, immense fields of corn, cotton, and sugarcane succeeding each other mile after mile; while the station platforms were piled with great bales of cotton, compressed and bound with iron-straps, for shipment to England and elsewhere. Occasionally the Egyptian ibis, an elegant bird with white

[1] Not by choice, probably, but by constraint, as a hostage for the good behaviour of the tribe.

[2] It had originally been intended that we should have an escort of the Egyptian Camel Corps, which had been kindly granted by Cheriff Pasha at the request of Captain Kitchener, Major in the Egyptian cavalry, but the proposal was afterwards abandoned for very good reasons; first, it could not accompany us further than Akabah, beyond which station the services of an escort were only expected to be of value; and secondly, we felt there was no necessity, as we had full confidence in the good faith of our convoy.

plumage, and in form somewhat like a small heron, might be seen in flocks amongst the cultivated fields, close to the teams of buffaloes while ploughing; or at other times perched on the backs of the buffaloes themselves, busily engaged in clearing the ticks from the animals, a process which the animals themselves evidently enjoyed.

After leaving Zagazig the country becomes more and more arid and desert-like, till at length, on approaching Tel-el-Kebir, the sands set in as far as the eye can reach on both sides. We noticed the ditch and entrenchments of Arabi's army which were stormed by the British troops under General Lord Wolseley, and a small camp of Egyptians still occupying the ground. We also passed the burial-ground of the British troops who fell on that memorable occasion, prettily planted with shrubs and flowers, which were being carefully tended by gardeners. Tablets to the memory of the officers and soldiers have been placed on the walls of the English church at Cairo.

The route lay along the side of the "Sweetwater Canal," which carries the waters of the Nile to Suez, Ismailia, and Port Saïd. This canal was constructed by the Ship-Canal Company, and it occupies very much the line of the ancient channel intended to connect the waters of the Nile with those of the Red Sea, and beyond the tract influenced and irrigated by its waters all was sandy desert covered by scrub, amongst which the only visible inhabitants were a shepherd and his flock. It was dark when we reached Suez, and on reaching our hotel we learned that the steamship, the "Shannon," had arrived from England, and lay in the Gulf awaiting the arrival of H.R.H. the Duke of Connaught, on his way to India.

Next morning, on ascending to the roof of our hotel, to take a glance at the surrounding country, we were struck by the bold aspect of Jebel Attâkah, which rises in the form of a lofty escarpment along the western shore of the Gulf of Suez a few miles from our position. In form and outline it seemed to bear some resemblance to the ridge of Jebel Mokattam behind Cairo, and to be in some measure, in a geological point of view, representative of it; the strata were, in fact, easily visible from the roof of the hotel. We determined to devote the day to a visit to this fine range, and taking a sail-boat manned by four Arab sailors and a boy we dropped down the Gulf. The wind was light, and sometimes failed us, so that the sailors had recourse to the oars, which they accompanied by a monotonous chant extemporised for the occasion, and, as we supposed, in our honour; as we could distinguish the word "hawajah"[1] not unfrequently. At length, after three hours, we landed on a pier leading up to the quarries which were opened by M. De Lesseps for his buildings at Suez. From the pier we toiled up to the quarries under a burning sun (the temperature in the shade being 91° Fahr.), and were rewarded by finding the limestone rocks crowded with fossil shells, though generally only in the form of casts. Our return was enlivened by a steady breeze which

[1] Hawajah (or gentleman) is the Arabic word applied to Europeans.

sprung up from the north-west, and as we were carried along we were on the look-out for the flying fish, which from time to time leaped out of the water, and after skimming over the crests of the waves for some yards, disappeared. As we neared the harbour the sun went down behind Jebel Attâkah, and soon after, the sky over the hills was all aglow, as if behind was concealed a great city in conflagration; the deep red of the west shading off through purple and roseate hues into the dark grey of the zenith. It is only in the East that such sunsets reward the beholder.

(To be continued.)

LETTER FROM CAPTAIN KITCHENER.

ARBASSIYEH,
13*th January*, 1884.

You will, I know, have received before this a full account of our proceedings from Professor Hull until we parted—he going to Gaza, and I striking across the desert to Ismailia. Our rate of travelling up the Wâdy Arabah was too fast for survey work. At first, while the valley was narrow, I was able, with Mr. Armstrong, to keep up by working hard, and being out almost every night after dark; but when the valley increased to fifteen miles wide I found it was impossible on camels to survey both sides at the rate we moved. I did all I could, and took up the work again later on the west side. My report will show how the work was done, and if you measure the distances I had to go I think you will find I got over as much ground as a camel would allow. They are bad beasts for surveying. I used to keep mine at a good trot for a bit until he got cross, which he showed by roaring, and then suddenly shutting up all four legs and coming with a thud on the ground, at the same moment springing up again and darting off in an opposite direction. Continued correction caused him to collapse again, and then roll, which was decidedly uncomfortable. I don't think I have ever done such hard work as I had up that Wâdy Arabah from Akabah to the Dead Sea. The result is, however, I think, very satisfactory; I have been able to run a triangulation up the whole way, and join on to the old work by measuring a base at Akabah. I took the levels by vertical angles, and kept up a complete chain of levels throughout. I found Akabah is out of position, being shown too far south on the Admiralty, and I found the south end of the Dead Sea to be terribly out—the Lisan has to be moved about three miles, and the whole shape of the south end altered. You will get full details in my report and plans, which I am preparing to send you as soon as possible.

By going up from the south end of the Dead Sea to Bir-es-Seba, I was able to put in a corner of the map and join on to our old work.

After Bir-es-Seba I considered that the road by El Arish to Egypt was already well known, so by myself, with only four camels and four Arabs, I made my way across to Ismailia, about 200 miles. One of the Arabs had been part of the road fifteen years before; none of the others knew anything of it, but they were good men from the Egyptian Haiweitats, under a relation of the Sheikh Ibn Shedid. We passed a good many Arabs of the Terabin and Ma'azi tribes, and I was received amongst them as Abdullah Bey, an Egyptian official, thus reviving a name well known and much revered amongst them; they supposed me to be a relation of the great Sheikh Abdullah. I was everywhere well received, and heard many expressions of the utter disgust the Arabs have for Palmer's murderers. They were also very full of accounts of Sir Charles Warren's pursuit of the murderers, and the energetic steps he took to catch them. My route—for there was no path or road—was a good deal over rolling sand drives, with no water supply. At one time we had a council of war, whether we should go back for water or push on to Ismailia; but as we had brought as much as we could carry from the last supply I insisted on pushing on, and we reached Ismailia without loss, but at our last gasp for water. The last two days' travelling were the most trying I have ever experienced; a very strong west wind blew the sand up into our faces, so that the camels would hardly face it. I will not anticipate my report and plans by giving you now a description of the route, but I can certainly say that it is a 200 mile trip I have no wish to traverse again. We only missed our way for a short time once during the whole march, and I was much struck by the wonderful way the Arabs can make their way across difficult country without compass to guide them. I travelled every day from 8 a.m. to 6 p.m. without stopping, and with very little variation. One night we had to travel a good deal after dusk, to make a brackish pool of water, and I very nearly lost the party, as we had to separate to hunt for the water.

There was only one supply of good water after Wâdy Feira, and that was in Wâdy el Arish; after that we only found one brackish small supply as far as Ismailia.

H. H. Kitchener.

ON THE RELATIONS OF LAND AND SEA IN THE ISTHMUS OF SUEZ AT THE TIME OF THE EXODUS.

This may be the proper place to refer to a suggestion of mine which has excited some interest, namely, that at the time of the Exodus there was a continuous connection of the Mediterranean and the Red Sea.[1] I never intended this to be considered other than a hypothesis towards the solution of a real difficulty which has occurred to all geographers who

[1] The *Times* and *Standard*, 18th February, 1884.

have undertaken to deal with the subject—namely, the determination of the actual position of the passage of the Red Sea by the children of Israel. As far as I am aware, the problem has been dealt with on the supposition that the physical relations of sea and land were, at the time of the Exodus, exactly or nearly as they are at present ; which there is reason to believe is far from having been the case. As Dean Stanley has truly observed, there is only one feature of the scene unchanged and unmistakable, and that is the magnificent mountain of Jebel Atâkah, the "Mountain of Deliverance," which from the south formed an impassable barrier to the escape of the Israelitish host in that direction, and induced Pharaoh to exclaim, "The wilderness hath shut them in!" This is "the precipitous mountain descending on the sea" referred to by Josephus, which doubtless commanded from afar the scene of the great deliverance wrought by Jehovah for Israel.

It is also impossible to doubt that, according to the narrative, the passage was made somewhere in the neighbourhood of Suez, probably Baal-zephon.[1] Briefly stated, the Israelites, instead of taking a course into Canaan along the coast of the Mediterranean, which would have brought them into collision with their future enemies, the warlike Philistines,[2] were directed to move southwards from Ramses (or Pi-Ramessu),[3] the capital of Egypt under Rameses II, and after a day's journey they reach Succoth (the place of tents), and on the following day Etham, situated on the edge of the wilderness ; that is, the district lying to the north of the Bitter Lakes, over which the road into Palestine and the east passed. By this road also the nomad tribes from Edom entered the pasture lands with their flocks.[4] From all this, and the absence of any reference to a natural water channel between Egypt and the east, there can be little doubt that at the time of the Exodus, and long before, there was continuous land across the Isthmus to the *north of the Bitter Lakes*. I therefore wish now to modify the statement which has been made in my name to this extent ; but I hope to be able to show that to the south of that lake the evidence leads to a different conclusion.

From Etham the Israelities "turned" southwards to Pi-hahiroth before Baal-zephon. This locality, as suggested by Dean Stanley, was probably in the vicinity of Ajrûd, the halting-place of the Mecca pilgrims.[5] It is at this point that the difficulty of reconciling the Bible narrative with physical facts meets us ; for, according to the present position of land and water, there is a direct landway across into the "wilderness of Etham,"

[1] Exodus xiv, 2.

[2] Exodus xiii, 17.

[3] Dr. Brugsch-Bey, "Egypt under the Pharaohs," edit. 1881, vol. i, p. 230, *et seq.* This author places Ramses (or Pi-Ramses) on Lake Menzaleh, at the entrance to the Tanitic branch of the Nile, and allowing twelve or fifteen miles for a day's march from Ramses, the Israelities at the end of the second day would have reached a position near Ismailia.

[4] Brugsch-Bey, *ibid.*, p. 234.

[5] "Sinai and Palestine," edit. 1873, p. 66.

by Chalûf, which lies between the Gulf of Suez and the southern end of the Bitter Lakes.[1] It was possible, therefore, for the Israelities to have crossed into Arabia Petræa without the miraculous interposition of God, had the position of sea and land at that period been the same as at present.

It is clear from the narrative that, when the Israelites found that they were being pursued by Pharaoh and his army from the north, they were in a position of extreme perplexity.

Encumbered with a multitude of women and children, flocks and herds, and enfeebled by long servitude, they exclaimed to Moses in bitter irony, "Because there were no graves in Egypt, hast thou taken us away to die in the wilderness?" But it does not appear as if they considered the chief sources of their danger were those above stated. It may be gathered from the narrative, that their danger lay in the nature of the surroundings, and in the physical obstacles to their progress out of Egypt. To the north was the army of Pharaoh; to the south, the desert and mountains; to the west, Egypt, from which they were fleeing; and to the east, the waters of the Red Sea. *Here* was the physical obstacle which (as it seems to me) destroyed their hopes, and drew from them the expression of despair.

Now, let any one compare the present physical conditions of the district north of Suez with those here indicated, and ask himself whether, if they had been at that time as they are now, there would have been cause for this cry of despair, and necessity for a stupendous miracle of deliverance, such as the Bible narrative relates, which impressed itself indelibly on the traditions of the people in whose behalf it was wrought. What was there in the present position of land and sea to have prevented the host of Israel from marching across the hollow, along which the ship canal has been excavated? The canal of Rameses II, which connected the Nile with the Red Sea, entered the Bitter Lake (L. Amarus) at the northern end; but though traces of an ancient canal have been discovered between the southern end of that inland lake and the present port of Suez, it does not follow that these were part of the original and more ancient canal. They may, on the other hand, be referable to the time of the Emperor Trajan, or of that of the Caliphs. All that I wish to contend for is, that there is no sufficient evidence to show that at the time of the Exodus, B.C. 1491, land extended from the head of the Gulf of Suez to the Bitter Lakes. If this be admitted, it is proper for us to inquire, What physical evidence is there in favour of the view that the Red Sea extended northwards of its present position at the period of the Exodus? The reply to this

[1] Most geographers have placed the passage at the Straits of Suez; but if there was land immediately north of this at the head of the Straits, why should the Israelites (ignorant of God's intended miracle) have been filled with dismay on viewing their position, when there was an open way into the wilderness, whither the Egyptians with their chariots could not have followed them (see "Biblical Atlas and Gazetteer," London). Professor Ritter supposes that the place of the passage is to be sought above Suez in the ancient bed of the sea. This is the view in favour of which I hope to show there is evidence based on physical considerations.

question lies in the complete evidence which is to be observed of a recent elevation of the whole land area of this region ; to which is attributable the occurrence of beds of sand and gravel, containing shells, corals, and other marine forms, now existing in the waters of the Gulf of Suez, along either side of that gulf, up to a level of at least 200 feet above its waters. The sea has therefore receded—or, rather, the land has been raised—to this extent during the period of the present forms of marine life. Now a depression of 200 feet below the present level of the land would place under sea-water the whole of Lower Egypt, and large tracts on both sides of the Gulf of Suez ; and, in fact, there can be little doubt that the inland cliffs of the Tîh on the one hand, and of Jebel Atâkah and Jebel Abu Derâj on the other, were originally the sea cliffs of the ancient Red Sea ; but this was at a time long antecedent to the period of which we are speaking. The maximum submergence above referred to was much more ancient than the period of history ; but it is not inconceivable that the entire elevation of the land and sea bed into the position we now find them, had not been effected at a time so far back as 3,000 years. Now let us inquire, What extent of submergence would be required in order to bring the waters of the Gulf of Suez as far north as the Bitter Lakes? Fortunately, the surveys made for the ship canal enable us to answer this question with much exactness. South of the Bitter Lakes, the highest point crossed by the canal was at Chalûf, distant eleven miles from the sea, and this is q. p. 26 feet above the level of its waters. To the north of the Great Bitter Lake there are two elevations—one at Tunum, between this lake and Lake Timsah, which reaches q. p. 25 feet (not very different from the former), and another at El Guisr, between Lakes Timsah and Menzaleh, which reaches a level of from 40 to 60 feet (average 50 feet) above the same datum.[1]

In considering the question of changes of level, we may suppose that the vertical movement was slow and gradual; and also that, within narrow limits, such as those of the Isthmus, the whole area was equally elevated or depressed during the same period. Now, on the supposition that the rise of the land from below the sea, indicated by the raised beaches and shell beds, was still in progress at the time of the Exodus, it will be seen from the above levels that the waters of the gulf would have extended right northwards into the Bitter Lakes, if only 26 feet of elevation had remained to be effected ; while, at the same time, there would have remained unsubmerged a tract of land with a maximum elevation of about 24 feet to the south of Lakes Menzaleh and Ballah ; that is, in the very district where, as appears from history, there existed a land connection between Egypt and the East.

Taking the above physical facts and deductions into consideration, it seems to me in the highest degree probable, that as far back as the age of

[1] Carte de l'Isthme de Suez, dressé sous la direction de la Comp. Univ. du Canal, 1866 ; also Sir W. T. Denison "On the Suez Canal," Proc. Inst. C.E., 1867, quoted in Spon's *Dictionary of Engineering*. I am also indebted to Sir Charles Wilson for a statement of the levels.

Rameses II, and his successor Mineptah II, under whom the Exodus took place,[1] the waters of the "Red Sea" extended northwards up the valley at least as far as the Bitter Lakes, producing a channel from 20 to 30 feet in depth, and perhaps a mile in breadth; a terrible barrier to the Israelites, and sufficient to induce a cry of despair from the whole multitude. If this view be taken, the Bible narrative (which I assume to be perfectly exact) will be brought into harmony with physical conditions; and the difficulty which has surrounded the subject will have been, to a great degree, removed.

On the same principles we may suppose that the gradual elevation of the sea-bed and adjoining land has progressed, till at some period—one cannot say how distant—the present relations were established; but supposing the rise to have gone on till very recent times, or to be still going on, the rate of elevation would be less than one foot in a century.

EDWARD HULL.

M. MASPERO'S WORK IN EGYPT.

THE following letter, addressed to Mr. Scott-Moncrieff by M. Maspero was published in the *Times* of February 23rd.

(*Translation.*)

"BOULAK, *Feb. 2nd*, 1884.

"SIR,—During the four years I have had the honour to direct the Department of Antiquities, I have never ceased to protest against the numerical insufficiency of the staff and the inadequacy of the funds placed at my disposal. Permit me to repeat this complaint once more, though the present state of Egypt affords me but little hope that it will be heard.

"You know how many monuments are found above the surface of the soil between the mouths of the Nile and the Second Cataract; no country in Europe, not even Italy or Greece, possessing so great a number on so small an extent of territory. Nature, moreover, has divided these monuments into three groups—first, that of the Delta, with Alexandria, San, Sa (Saïs), Bubastis, and the regions mentioned in the Bible; secondly, that of Egypt proper, with Memphis, the Pyramids, the Faioum, Beni-Hassan, Tel-el-Amarnah, Siout, Abydos, Denderah, Thebes, Esneh, Edfou, Koum Ombou, and Philæ; thirdly, that of Nubia, with all the temples of the Ptolemaic epoch in the neighbourhood of Philæ and the wonderful Pharaonic ruins of Wâdy Essaboua, Ibsamboul, and Wâdy Halfa. Of these three groups only one is placed under the care of the Department of Antiquities, and protected as well as may be from the avidity of treasure-seekers and the mischievous folly of tourists—that in Egypt proper. Even this is imperfectly protected, and some localities such as Siout, Tel-el-Amarnah, Bersheh, Beni-Hassan, Illahoun, &c., remain without

[1] Brugsch-Bey, "Egypt under the Pharaohs," edit. 1881, vol. i.

guardians. The Delta and Nubia have no protection, and are left to the mercy of the first who may choose to destroy or rifle the temples. Thus, in Nubia the inhabitants of the village of Dandour have recently caused the wall of the temple to topple down through taking the *sebakh;* at Mansourah a proprietor demolished a superb naos of Nectanebo I in order that he might use the *débris* for the foundations of a bridge; at Zagazig and at Damanhour the treasure-hunters in 1883 discovered depôts of *bijoux*, which, valued at the weight of the metal, without taking the artistic workmanship into account, were worth over 50,000f. The artistic and archæological treasures of Egypt are open to pillage throughout two-thirds of the Egyptian territory.

"Observe that here I speak only of the service appointed for the guardianship of the monuments; another part of my functions obliges me to make excavations, to endeavour to increase the number of the monuments deposited in the Boulak Museum, and to discover new documents which may enable us to re-write the ancient history of the Egyptian and Semitic worlds. The funds allotted to the service for the prosecution of excavations are so small that in Europe I am almost ashamed to name the exact figures. They have been diminishing from year to year; they have never exceeded 35,000f. per annum, and have always approached much more nearly 25,000f. With 35,000f. I can still sustain the burden imposed on me, provided that I undertake a great deal personally. The discovery of the Royal mummies at Thebes; the opening of sixteen pyramids, of which some, like that of Mydoum, passed for impregnable; the clearing away of the rubbish begun at Luxor, show what we can do with the miserable means afforded us. But I learn that many, even among Europeans, consider that these few thousand francs are yet too heavy a charge for the Treasury, and decry our labours as entailing a useless expense. I confess I cannot see sense in the accusation. In ordinary times Egypt is visited every year by about 3,000 travellers, drawn there, not by factories, or cotton, or railways, or all that it is customary to call useful and productive, but by the monuments of Arab and Egyptian art. Estimating the expenditure of these travellers at 2,000f. each on an average, there is a sum of four to six millions of francs a year which is left by them in Egypt, and which the country gains entirely. In first deducting from these millions the thousands of francs which the Department of Antiquities requires, Egypt does not incur a useless expense; she has the wisdom to take from the riches which come without trouble to her funds barely sufficient to keep up the artistic and archæological capital bequeathed to her by antiquity.

"Circumstances are so unfavourable at present that I shall not ask for an augmentation proportionate to the importance of the service: I shall only ask the Government not to diminish the little it gives me. On the other hand, I cannot resign myself to leave two such important provinces as the Delta and Nubia to be pillaged. Already I have endeavoured to engage private individuals to promote the objects we have in view in those parts of the country in which I cannot carry on excavations myself on the Government account. I have favoured the formation of the Egyptian

Exploration Fund, for which M. Naville last year discovered the town of Pithom, and for which Mr. Flinders Petrie is executing some works at Tanis this year. I have concluded arrangements with Messrs. Cook which will enable me to obtain some money from all the travellers that firm conducts through the country. The French Government has put some thousands of francs at our disposal, through the intervention of the École d'Archéologie which it has founded at Cairo. It seems to me that private persons might come to our aid as companies and Governments do, and that subscriptions opened in England and in the other countries of Europe might furnish us with some resources. With so little as it is our fortune to obtain our budget is so restricted that the smallest sums of money will be welcome.

"I leave it to you, Sir, to see if this suggestion can be made to lead to any practical result, and beg to assure you, &c.,

"G. MASPERO."

PILLAR OR GARRISON?

SIR,—With all due respect to Captain Conder, I do not think my position with regard to 1 Samuel xiii, 23, can be so easily shaken. In Joshua xv, 3, 9, &c., the "boundary line" of the tribes is *the subject* of the narrative, but in the episode of 1 Samuel xiii and xiv there is no hint of a boundary being in question, unless it can be read into the word in dispute.

I cannot go into the Hebrew; but the question is not whether the verb can be employed of some kinds of inanimate objects, but whether such an object as a menhir can be said to have *gone out* or *extended*.

That this distinction exists may be shown in the English words, by substituting for "garrison" the words proposed by C. R. C. as the correct rendering of מצב. We at once recognise that we could not properly say "the pillar of the Philistines went out to the passage of Michmash," or "the menhir of the Philistines extended to the passage of Michmash." You could indeed say the boundary of the Philistines went out (or extended), &c., because in the subject of a "boundary" there is involved the active principle of extension in length of circuit, or expansion of an area; but I do not gather that Matzab can signify a boundary in this sense, but only a boundary *mark* set up to signify the precise position of the boundary at a particular place.

Following verses 5 and 6 of chapter xiii, the latter part of the chapter really described a more extended irruption of the Philistines than that prior to Jonathan's exploit, and verse 23 naturally follows on verse 16 as describing a military foray.

If it had signified a *lessening* of the extent of Philistine territory consequent on Jonathan's prowess, ought it not to have been mentioned before verse 5, and to have been worded "and the *Matzab* of the Philistines went *back* to the passage of Michmash?"

The word clearly can be rendered "garrison" or "outpost," and if this rendering is kept there is no *difficulty* about the whole narrative. Besides what does C. R. C. make of 2 Samuel xxiii, 14?

Before I close, I wish to point out the following errata on page 244, *Quarterly Statement*, 1883:—Line 7, כציב should be נציב; line 12, eruption should be irruption; line 21, sixteen should be fourteen.

Yours obediently,

H. B. S. W.

THE NAMELESS CITY.

To the Editor of the Palestine Exploration Fund Quarterly Statement.

Sir,

May I be allowed to make one or two comments on the remarks of C. R. C. on pages 183–4 of the *Quarterly Statement* for 1883?

First, I would ask how Kirjath-Jearim can possibly be the city where Saul met Samuel, in the face of the statements in 1 Samuel ix, 27, and x, 1, 2, showing that it was *immediately* after leaving Samuel that Saul was to meet the "two men by Rachel's sepulchre?" If we are not to understand that Rachel's sepulchre was *near* to the "end of the city" where Saul was anointed, then I wonder that C. R. C. does not accept the view of the Arabic Commentary I quoted in *Quarterly Statement*, 1884, page 53.

I cannot see, however, that the expression "end of the city" has any special connection with Kirjath-Jearim.

Seeing that the Hebrew word here used for "the end" is used of the "end of the rod" with which Jonathan tasted the honey (1 Sam. xiv, 27, 43), of the "end of the conduit" where Isaiah was told to meet Ahaz (Isa. vii, 3), and again in 2 Samuel xxiv, 8, respecting the "end of nine months and twenty days" in which Joab was occupied in taking the number of the people, to say nothing of the "end" of Jordan, of the valley of giants (Josh. xv, 5, 8), and of the mountain (Josh. xviii, 16), it must be manifest that it simply means the "end," the furthest extremity only.

May I ask also why C. R. C. explains Aretz Sha'lîm as being = land of caverns?

Is it not more reasonable to connect it with Shual = Jackal, in the "land of Shual" (1 Sam. xiii, 17), and perhaps with "Hazar-Shual?" Dr. Young renders it "jackals," and Gesenius suggests "region of foxes."

Yours truly,

H. B. S. W.

THE
PALESTINE EXPLORATION FUND

NOTES AND NEWS.

We beg readers and subscribers to read the Report of the Executive Committee for the past year, and the proceedings of the meeting of General Committee, in order to learn what has been the real nature and extent of our operations during the twelve months ending June 30th, and what are our prospects of work for the future.

An abstract of the most important scientific results of Professor Hull's survey has been drawn up by him for the Committee, and will be found in its place on page 160. The Professor is now engaged upon the Geological Memoirs of his journey, and upon a popular account, the first or opening chapter of which was published in the April *Quarterly Statement*. The latter will be issued as a separate volume in October next; the publication of the former will be arranged as soon as possible after it is ready.

Major Kitchener's report on the geological and topographical results of the expedition will be published in the October number of the *Quarterly Statement*. The map has now been completed by Mr. Armstrong from the observations and sketches, and is ready for publication. We may fairly congratulate ourselves on the result of the year's work, which has added to our knowledge, besides a most important study of Palestinian geology, a Survey of the whole of the Wâdy Arabah.

The work of the future, as will be found explained in the Report of the Executive Committee, will depend partly on getting the Sultan's Firman to continue the Survey of Eastern Palestine, and partly *on the seizure of opportunities as they occur*. Thus it is hoped in the next winter that some work similar to that of last year may be successfully carried through.

The "Survey of Western Palestine" is at length completed, after four years of work. No more magnificent monument of similar enterprise has ever been published in any work which has added more to the elucidation of the Bible, the purpose for which it was undertaken. It consists, as now completed, (1) of the Maps of Western Palestine, from the Surveys executed by Captains

Conder and Kitchener, 1871–1878; (2) of three volumes of Memoirs, illustrated by many hundreds of drawings, plans, sections, &c., executed by the officers for this work and never before published; (3) one volume of Name Lists, containing all the modern names collected during the Survey; (4) one volume on the Flora and Fauna of Palestine, by Canon Tristram; (5) one volume on Jerusalem, by Colonel Sir Charles Warren, K.C.M.G., F.R.S., and Captain Conder, R.E.; and (6) a portfolio containing 50 sheets of drawings, prepared by Sir Charles Warren from his excavations, giving for the first time a complete representation of all his discoveries. The copies which remain will be sent out in order of application as they are subscribed, and *no more copies will be printed* except of the last two.

The "Flora and Fauna," by the Rev. Canon Tristram, consists of one volume (of 450 pages), with twenty full-page illustrations, of which thirteen are coloured by hand. The Preface of the geographical and geological relations of the Flora and Fauna endeavours to account for the anomalies by the geological history of the country, as written chiefly in the Terraces of the Jordan Valley. The volume contains a complete catalogue of all the vertebrate Fauna, including the fresh-water fishes, the most singular portion of the Palestine Fauna, the terrestrial and fluviatile mollusca, the phanerogamic plants, and the ferns. The Hebrew names, so far as known (*i.e.*, every Hebrew name found in the Bible), and the vernacular Arabic names are given; the authority and original description of every species is given in reference, and the geographical area of each species, which in every case has been carefully worked out. Short accounts are given of the most interesting and conspicuous species, and the fishes of the Sea of Galilee are very fully described. It has been resolved to allow this volume to be subscribed for separately at the price of three guineas.

The Jerusalem book, by Colonel Sir Charles Warren, K.C.M.G., and Captain Conder, R.E., consists of one volume, uniform with the preceding, of 542 pages. The following is the Table of Contents:—

Chronological Synopsis of the History of Jerusalem; Architectural History of Jerusalem; History of Jerusalem Exploration; Statement of the principal controversies; Explorations in Jerusalem; Excavation round the Noble Sanctuary; Tanks inside the Sanctuary; Excavations on Ophel; Excavations in the City; Explorations since 1869; Work of M. Clermont-Ganneau in the City; Environs of Jerusalem; the Siloam Inscription; Ancient Inscriptions in Jerusalem; the Holy Sepulchre. To these is added an Appendix on Philistia; Askelon; Jidy; Warren's Journey east of the Jordan; the Jordan Valley; Saida; the Temple of Cœle Syria; the Mounds of Jericho; the Lebanon; and the pottery and glass found in the excavations. A number of illustrations will be found in the text, but the volume is actually illustrated by the great portfolio, with fifty sheets of drawings which accompanies it. In them will be found, published in their entirety for the first time, the whole of Sir Charles Warren's work, with contributions from Captain Conder. The volume and portfolio may also be had separately at the price of five guineas.

A very important resolution has been passed by the Executive, and approved by the General Committee. It is to the effect that, in order to meet the wishes

of many subscribers, we shall replace our reduced Maps of Western Palestine and our Old and New Testament Maps by others giving both Eastern and Western Palestine, the present part including what has already been done, and showing what is known approximately of the rest. Sir Charles Wilson will superintend this work. When it is ready, those subscribers who wish will be allowed to exchange the maps already in their possession for the new ones, on payment of the small difference in their cost and the carriage. Mr. Armstrong is now engaged upon drawing these maps. It is not likely that they will be completed before the end of the year.

We have received from Mr. Laurence Oliphant some notes on a journey recently undertaken by him into Eastern Palestine. They were accompanied by geographical notes made by Mr. Schumacher. These include the heights of eighteen ruins, cottages, and hill-tops; the collection of some thirty names; the correct course of the Yarmuk and the Rukad, with sections across the former river. At Tsîl, on the way to Damascus, it is stated that there are a great many dolmens, of which one was sketched, and is figured at page 171. It will be observed that it is a very fine and perfect example. It is remarkable that there should be a great group in the north of this country, perhaps corresponding to the group found and planned by Captain Conder in 1882.

Among the "Special Surveys" made during the survey of Western Palestine is one, fortunately very complete, of the ruins of Cæsarea, which will be found in Vol. II of the Memoirs. The following notes, extracted from a recent letter published in the *St. James's Gazette* (June 27, 1884), curiously illustrate the importance and rapidly increasing value of these plans, made before they were swept away by populations which have no other than a superstitious interest in old monuments. It must be remembered that every improvement or alteration in the condition of the country means the destruction of more ancient monuments. The possessors of Captain Conder's Memoirs will before long hold in their hands a representation which can never be made again of other curious and interesting ruins, besides those of Cæsarea. We may remark, in illustration, that a precisely similar process of destruction is going on at Ammân, where the ruins have also been specially surveyed by the same officer.

"The principal inducement to tourists in Palestine to take the coast route which leads from Jaffa to Carmel and Acre, lies in the fact that it affords them an opportunity of visiting the ruins of Cæsarea, which are mainly of two periods —first, the Roman town, with walls, theatre, hippodrome, mole, temple, and aqueducts; second, the Crusading town, with moats, castle, cathedral, northern church, and harbour: the whole forming a collection of remains which for importance, extent, and interest are unsurpassed by anything in the Holy Land west of the Jordan. Those who have already visited these ruins may consider themselves fortunate; for they are at present undergoing a process of transformation and disintegration which bids fair to destroy, or at all events to conceal, the last vestiges of what was once the most important centre of Roman civilization on this coast. The circumstances under which this change is taking place are sufficiently curious—from an historical and political point of view, as being the direct result of the late Russo-Turkish War—to be brought to the notice of

your readers; while they form a singular commentary on the ignorance which prevailed in England with regard to the true character of the events which led to that war.

"When those disturbances occurred in Bosnia and Herzegovina which led first to Servian and then to Russian intervention, the popular notion was that the population of those provinces was Christian, and that the cause of the insurrection was the persecution of the inhabitants by the Turkish Government. There would be some difficulty in reconciling this theory with what is now going on at Cæsarea. These ruins have been presented as their future home to Moslem emigrants from Bosnia and Herzegovina, who are all Slavs, some of whom do not know a word of Turkish, and who have fled for refuge to the sheltering wing of the Sultan from the Christian rule of Austria in the provinces that were ceded to her by the Treaty of Berlin. They are the *avant-garde* of a large influx which is soon to follow; and I was astonished on visiting their new colony a few days ago at the display of energy and wealth which it presented. A broad street has been laid out, which passes directly over the remains of the Roman temple built by Herod in honour of Cæsar and of Rome—(the finely dressed white stone being turned to good account by the colonists)—and over the Crusader's cathedral, the foundations and walls of which also furnish splendid building material. The masonry is brown limestone beautifully squared; the stones are from 9 inches to 2 feet long, and from 6 to 8 inches high, and have the dressing common to mediæval churches. This street extends in a northerly direction from the south gate of the Crusading fortress, and will probably be ultimately prolonged to the north tower. Already within the last five months over twenty handsome stone houses have been built upon it, two of them three stories in height, all surrounded by court-yards, in which the harems of the colonists are jealously secluded; indeed, I did not see one female immigrant. The Slavs are, in fact, far more rigid in their Moslem observances than the Arabs by whom they are surrounded. Many new houses were in process of erection, the carpenters and masons all being supplied by Haifa, as Cæsarea is in the caimakamlik of that name. As I had visited the towns of Mostar and Cognitza in Herzegovina, from the neighbourhood of which the colonists had come, I easily won their sympathies by talking to them of their country, and listening to the grievances which induced them to dispose of their property and transfer themselves to Palestine. They were aristocrats in their own country, and they had been unable any longer to submit to the humiliation of being treated on an equality with the peasantry of their own race, who, being Christians, were—from their point of view—unduly favoured by the Government; and who, no doubt, availed themselves of the changed circumstances to be revenged upon their former masters. One of the colonists, who had opened a little store, placed at my disposal an unfinished house which he was building. He announced his intention of opening an hotel, which will be an immense convenience as a half-way house for travellers from Jaffa to Haifa, the more especially as it is possible now to drive the whole distance in a carriage. Indeed, now that there is a good hotel at Haifa, there is no reason why travellers, instead of riding and tenting it from Jerusalem to Nazareth, should not drive the whole distance between those places by way of Jaffa, Cæsarea, and Haifa.

"These Slav colonists have a fine tract of land, part of the Plain of Sharon, assigned to them for cultivation, adjoining the section granted to the Circassian

colonists, whose village is within a few miles of Cæsarea. As these Circassians are emigrants from Bulgaria, it seems a singular destiny that they should again have Slav neighbours in Palestine; while scarce ten miles distant, in curious contrast with these two races, is the Jewish colony of Zimmarin, which, in spite of all the difficulties with which it has had to contend, seems likely to turn out a success. Meantime it is satisfactory to find that a magnificent tract of fertile country, which has hitherto been abandoned to desolation and nomads, is now likely to be brought into cultivation by an increase of the agricultural population, no matter of what race; and that the port upon which Herod the Great expended so much labour and money, although fallen into disrepair, will again be put to use. The northern side of this harbour is composed of a mole, consisting of some sixty or seventy prostrate columns; the southern of a rocky promontory, on which was probably built the "Drusus," or principal tower of the great wall of Herod. It is now a confused mass of Crusading masonry. For here was built the donjon-keep; and among its ruins the Slavs, with an eye to the amenities of life, are now erecting a café and place of entertainment, which, perched over the sea between Roman columns and Crusaders' buttresses, will catch every breeze and form an agreeable resort. Most of the new houses are built on the foundations of old ones, thus forming a sixth architectural period. For Herod built on the site of the ancient town known as Strato's Tower; the splendid city which he called Cæsarea was followed by structures raised under the Byzantine rule; upon the ruins of this the Mohammedans built; next came the time of the Crusaders; and the final destruction of the place by Bibars took place in A.D. 1265. In the course of their excavations for building-stone the Slavs have found a good many coins of various periods, some statuettes, and other antiquities; but, so far as I could discover, nothing has been brought to light of any great value, and the owners set an exorbitant price on what they have found. As, however, the new town is only in its infancy, and there is no saying what discoveries may yet be made.

"O."

The income of the Society, from March 13th to June 26th inclusive, was £738 2*s.* 8*d.* On June 30th the balance in the Banks was £311 8*s.* 7*d.*

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

MEETING OF GENERAL COMMITTEE.

JUNE 19TH, 1884.

THE Chair was taken by Mr. JAMES GLAISHER.

The Secretary read the minutes of the last General Meeting, which were confirmed.

The Secretary then read the Annual Report of the Executive Committee, as follows :—

REPORT OF THE EXECUTIVE COMMITTEE.

MY LORDS AND GENTLEMEN,

Your Committee, elected at the last General Meeting of June 19th, 1883, have, on resigning office, to render an account of their administration during the past year.

I. The Committee have held twenty-one meetings during the year.

II. It has been found impossible to carry on the survey of Eastern Palestine for want of the Sultan's Firman. The portion of the survey already accomplished has been engraved on the reduced scale, and issued to subscribers. Captain Conder has completed and handed in his Memoirs of the 500 miles surveyed. These are remarkably full and detailed, and are accompanied by hundreds of plans and drawings. The Committee have still under consideration the question, whether these should be published at once, or whether they should wait for the continuation of the work.

III. The issue of the Society's great work, "The Survey of Western Palestine," is at length completed. The last two volumes, that on "Jerusalem," by Sir Charles Warren and Captain Conder, and that on the "Flora and Fauna," by Canon Tristram, are now in course of distribution to subscribers. The Jerusalem volume is accompanied by a portfolio of plates, drawings, and sketches. These two volumes will not be limited in their issue. The Committee think that the Society may be justly gratified by the completion of this magnificent work, which, with the accurate and beautiful maps furnished by the survey of Captains Conder and Kitchener, is by far the most important and valuable contribution ever made to the elucidation of the Bible from the geographical, archæological, and topographical point of view. The maps have been executed in the best style, and therefore at a very considerable cost. The Committee think it due to Mr. Stanford, their engraver, to record their sense of the beauty and excellence of the work put into the engraving of their reduced maps.

IV. There have been many expressions of opinion that the maps, which now show only the western side of the Jordan, should be extended so as to

give the eastern side also, even though that part is yet imperfectly known. It has therefore been resolved that all the existing information on this part of the country shall be laid on sheets the same size as those of the reduced map for the engraver. Mr. Armstrong, who has been in the Society's service since the year 1871, is now engaged in doing this. As soon as he has completed the work it will be sent to the engraver.

In order to make these maps more generally useful, the Old and New Testament names, boundaries, &c., will be laid down on them in different colour. Sir Charles Wilson has kindly undertaken to superintend this part of the work; when it is completed, those subscribers who wish will be allowed to exchange the Bible maps they have already obtained at the office for the new ones, on payment of the small difference in the cost of the two maps.

V. In October of last year the Committee published, through Messrs. Bentley & Son, Captain Conder's new book on his Eastern travels, entitled "Heth and Moab." The result, though not yet so satisfactory as in the case of the preceding work by the same author, has left a balance on the right side in our hands.

VI. The exploration work of the year has been of a very satisfactory and valuable kind. The Committee announced at their last General Meeting that they hoped to organise, and send out in the autumn, an expedition which should be mainly devoted to geological research. This expedition has been despatched, and has accomplished the work entrusted to its leader, Professor Edward Hull, F.R.S., Director of the Geological Survey of Ireland. He was accompanied by Captain Kitchener and by Mr. George Armstrong. Professor Hull also took with him his son, Dr. Gordon Hull, and the party was also strengthened by the addition of two volunteers, Mr. Hart, who was assisted by a grant from the Royal Irish Academy for botanical purposes, and Mr. Reginald Lawrence. They left England on 10th of October last year, and returned on the 12th of February, after a journey which occupied four months.

VII. As regards the results of the expedition, they are twofold. First, *Geological.* An analysis of Professor Hull's discoveries has been placed in the hands of the Committee, and will be published in the next number of the *Quarterly Statement.* He has traced the ancient margin of the Gulfs of Suez and Akabah to the height of 200 feet above their present level, so that the whole country has been submerged to that extent, and has been gradually rising. As regards the Dead Sea, he has discovered that it formerly stood at an elevation of 1,400 feet above its present level; that is to say, 150 feet above the level of the Mediterranean. The history of this gradually lowering of the waters will form a special feature in Professor Hull's forthcoming report. He has also found evidences of a chain of ancient lakes in the Sinaitic district, and of another chain in the centre of the Wâdy Arabah, not far from the watershed. The great line of feature of the Wâdy Arabah and the Jordan Valley has been traced to a distance of more than a hundred miles. The materials for working out a complete theory of the origin of this remarkable depression are now

available. They are found to differ in many details from the one furnished by Lartet. The terraces of the Jordan have been examined, the most important one being 600 feet above the present surface of the Dead Sea. The relation of the terraces to the surrounding hills and valleys shows that these features had already been formed before the waters had reached their former level. Sections have been carried east and west across the Arabah and the Jordan Valley. Two traverses of Palestine have also been made from the Mediterranean to the Jordan.

Dr. Gordon Hull has taken more than a hundred photographs, chiefly of places never before figured.

Next, *the Geographical results.* Major Kitchener has made a survey, which is lying on the table, of the whole of the Wâdy Arabah, from Akabah to the Dead Sea; he found traces of an old city about a mile north-east of the town of Akabah; another ruined city on the east of the wâdy, six miles north of Feidan, with many indications of former buildings, terraces, and irrigation works. He visited Petra and heard many rumours and reports of ruins said to lie on the east of the hills in the country of Edom. He has given the Committee a report on his work, which will also be published in the *Quarterly Statement.*

As regards exploration, therefore, this year has been fruitful of valuable work. For future work the Committee must be mainly guided by circumstances. Until the Sultan grants the Firman it is useless to think of continuing the survey of Eastern Palestine. It is therefore proposed to continue the work from time to time as opportunities offer, by means of such special expeditions as those of Professor Hull, or by the informal work of private parties and travellers, the results of which will be published from time to time as they arrive.

VIII. The following is the Balance Sheet of the year 1883:—

1883.		£	s.	d.
Jan. 1.	Balance	363	14	3
Dec. 31.	Subscriptions	2,014	1	1
„	Maps and Memoirs	881	7	0
„	Books	100	11	0
„	Photographs	22	3	7
		£3,381	16	11

1883.		£	s.	d.
Dec. 31.	Exploration	732	2	3
„	Maps and Memoirs	1,521	5	2
	Management:			
„	Salaries and wages	374	7	3
„	Rent	121	0	0
„	Stationery, Advertising, Lithography, Insurance, and Office	13	18	2
„	Printing	263	2	2
„	Postage	113	16	3
„	Balance	172	5	8
		£3,381	16	11

It will thus be seen that the Committee spent during the year the sum of £3,209 11*s.* 3*d.*, of which £509 5*s.* 5*d.* was expended in management, or including postage £623 1*s.* 8*d.*, which is not quite 20 per cent. of the whole. The expenditure of the year 1884, up to the present date, has been £3,121, of which £1,830, or 59 per cent., has been spent in exploration, £833, or 27 per cent., on Maps and Memoirs, £130, or 4 per cent., on printers, and £328, or 11 per cent., in management.

The maps and Memoirs up to the present have cost the Society about £6,000. They have realised rather more than that amount. There is about £2,000 still to be paid on this account; and when all the subscriptions to the "Survey of Western Palestine" have been paid, and the copies still on hand subscribed for, there will remain a considerable surplus, but it is not possible at the present moment to estimate the exact sum.

IX. Papers have appeared in the *Quarterly Statement* since last June on the Geology of Palestine, by Professor Huddlestone; on various topographical and archæological points, by Captain Conder, the Rev. W. F. Birch, the Rev. Pickering Clarke, the Rev. H. G. Tomkins, and others; on the Shapira Manuscripts, by the Rev. Dr. Ginsburg, M. Clermont-Ganneau, and Captain Conder; on the Relation of Land and Sea in the Isthmus of Suez, by Professor Hull; on Mr. Holland's Last Journey, by Sir Charles Wilson; on the Khurbets of Carmel, by Mr. Laurence Oliphant; and on Inscriptions in Palestine, by M. Clermont-Ganneau. To all these gentlemen the Committee render their best thanks.

X. The Committee have, lastly, to express their best thanks to the Local Secretaries, who are active in spreading abroad a knowledge of their work; and to all their subscribers and donors.

The Rev. Dr. William Wright: Mr. Chairman, My Lords and Gentlemen, I have much pleasure in proposing that the Report just submitted be adopted, printed, and circulated. The different items referred to show that the past year has been one of considerable activity. You have done all you were able to do, though not all you desired to do. In your publications, and in your explorations, you have largely added to our knowledge of the Holy Land during the year; and though in some of your efforts you may not have attained to certainty, you have certainly made advances towards certainty, and you have stimulated curiosity, and mental activity, and a great desire to know more, and to explore further, and deeper, on lines which you have indicated. You are still, I regret to see, hampered by the groundless fears of the Sultan. If any man can remove obstructions out of the way, Lord Dufferin can. I know personally that Lord Dufferin succeeded last year in securing results in Syria which seemed impossible. The Sultan could do no more popular act than permit those who wish him no ill to explore thoroughly and make a good map of those sacred and historic lands of which he is now the guardian. And it is certainly not in his interest that his acts should only drive earnest scholars to long for the time when the country, now closed and barred by ignorant, blind, weak fanaticism, shall be opened to all under a more enlightened ruler. I trust

that Lord Dufferin will continue to urge on the Sultan, in his own interest, as well as in the interest of geographical science, to remove all restrictions out of the way of a thorough survey of Syria and Palestine. Sir, I have seen your work in progress, and I know something of the results attained. I have had the pleasure of seeing your men hard at work on the survey, in the face of difficulties, and I have also seen them hard at work in filling in details during what was supposed to be their holidays at Bludan and elsewhere. I have just recently been associated with some of your best men, in the preparation of maps for the British and Foreign Bible Society; and it is only by going through the work done that one can form any idea of the vast amount of material for the future student which your explorers have placed at the disposal of Bible students. You will be pleased to hear that the corrected proofs of the set of the Bible Society's maps containing your own work, so far as is possible on our small scale, are now in the hands of Mr. Stanford, and as the Society's home circulation last year amounted to over one million and a half copies of the Scriptures, you may form an idea of the wide circulation of the knowledge of the Holy Land made accessible by your Society. But the maps will also appear in the Italian, French, German, Telugu, Chinese, and other foreign versions of the Society. And as the Society's versions now reach a total of somewhat over 250, the information gathered by your agents will be more extensively circulated than could ever have been dreamed of by the founders of the Palestine Exploration Fund. Let me urge you not to slacken energy in this work, which is for all the world, and for all time. I long for the day when your work shall go on east of the Jordan. Rich treasures await you in the Hauran, and among what have been called the "giant cities of Bashan." You have done good work in giving us a true map for the west of the Jordan, but a less explored and a more fertile field awaits you east of the Jordan, not to speak of the south country, Edom and Moab. I have much pleasure in commending your work, and in moving the adoption of the resolution which I have submitted.

Mr. Cyril Graham: I beg, Sir, to second the resolution of Dr. William Wright. I have long desired that this important survey may be extended to cover the Land of Bashan, and even further east. In this map, which I drew up from the notes of my own journeys in the year 1858, I was able to lay down a great many places and names not previously known. At the same time the journey of a single traveller can never do such map work for a country as a party of surveyors accomplish. The country is not too far east for Biblical limits; for instance, in Umm el Jamul we recognise Beth-gamul. And there are certain periods in the year when it may be safely and easily traversed. I have only to express my hope that the hoped-for Firman may speedily be granted, and the party again in the field. Meantime, the exploration work of the year shows what may be done in seizing opportunities and getting the right men to work.

The resolution was carried unanimously.

Rev. W. F. Birch: I beg to propose the re-election, for the ensuing twelve months, of the Chairman and the Executive Committee. I am quite sure, as a member of the General Committee, an Honorary Local Secretary, and one who takes the greatest interest in the welfare and success of the Society, that we are in very good hands. The Report of the year proves that the work is being followed up with as much vigour and activity as is possible.

The Rev. Dr. Löwy, in seconding the resolution, called attention to a recent decree by the Porte that no visitors to Palestine should remain there for more than thirty days without special permission.

The resolution was carried unanimously.

The Rev. Dr. Ginsburg: Mr. Chairman, I have a list of gentlemen in my hands whom I beg to propose for election in the list of General Committee. They have all shown that active interest in all belonging to the Holy Land which is the one qualification required to make a man eligible for our General Committee. These names are—

Lord Rollo.
Sir Richard Temple.
Sir William Muir.
General Charles Gordon, R.E.
Professor Hudleston.
Professor Hull.
Mr. George Burns.
Mr. John Robinson, of Westwood Hall, Leeds.
Mr. W. C. Jones, of Daresbury, Warrington.
Mr. A. H. Heywood.
Rev. Professor Milligan.
Mr. Henry Lee, M.P.
Mr. H. S. Perry, of Monksbourne, Cork.
Mr. F. W. Grafton, M.P.
Rev. F. W. Creeny.
Rev. H. G. Tomkins.
Mr. W. H. Houldsworth, M.P.
Mr. J. H. Shorthouse.
Rev. Prof. H. A. Hort, D.D.
Rev. F. E. Wigram.

Mr. Vaux seconded the resolution, which was carried unanimously.

The Rev. W. F. Birch: Mr. Chairman and Gentlemen, We have now reached an epoch in the history of this Society. The two newly issued volumes and the plans lying on the table conclude the great work of the "Survey of Western Palestine," begun in 1872. The portion of Captain Conder's map before us, containing 550 square miles, is the firstfruits of the eastern survey; now unhappily stopped by the withholding of a Firman.

Even under this discouragement, previous speakers are radiant with hope that the survey will yet be extended southwards into the desert of Et Tîh and eastwards into the far Hauran. But what of the centre of interest in the Holy Land? My thoughts turn always to Jerusalem. Is there not work there? Colonel Warren's beautiful plans show us much that was once unknown; but at many important points his work was cut short, so that what is known only makes me the more desirous to know more. I ask, is it not time, after an interval of fifteen years, once more to resume excavations at Jerusalem? Shall we be content with presenting to the Bible-loving people of England a correct map of Palestine, and then own that we cannot give them a true plan of Biblical Jerusalem? One says Zion was here, another there; is this always so to be? The Bible arguments seem to me to demonstrate that the City of David was on the eastern hill south of the Temple, but almost all authorities are in favour of some other position, and nothing but excavation will ever settle this debated point. I understand that Colonel Warren thinks that there would be no difficulty in excavating on Ophel, away from the walls of the present city. Why should the Turk object to Englishmen paying for the privilege of digging in the gardens down towards Siloam? The money spent would be so much gain to the poor fellahin. I am convinced that between the Virgin's Fount and Siloam there are remains of the deepest interest connected with the City of David. I would hope, then, that the day is not far distant when the long-lost catacombs of David and other kings of Zion will once more be trodden by those who take pleasure in her stones. As to the question of expense, I believe the necessary funds would soon be forthcoming, since I am satisfied that many supporters of the Palestine Exploration Fund would rejoice to hear that excavation work at Jerusalem was once more to be taken in hand. I have much pleasure in proposing the following resolution:—"That the Executive Committee be requested to consider the question of resuming excavation outside Jerusalem on the earliest opportunity."

Sir CHARLES WARREN: I have great pleasure in seconding Mr. Birch's resolution—the more, perhaps, because we do not always take the same view on the sacred sites of the City. There are many places about and around, perhaps within the city, where excavations might be conducted at small cost, and without danger of interference.

The resolution was carried.

The CHAIRMAN: My Lords and Gentlemen, We have now, as Mr. Birch remarked, reached an epoch in our work. On the table before us lie the volumes, the maps, and the drawings, summed up generally under the title of the "Survey of Western Palestine," which represent the great bulk of our labours since the work of the Society began. We have surveyed all that part of the Holy Land, from Dan to Beersheba, which lies on the west of the Jordan—there are our maps. We have planned, drawn, measured, and photographed nearly every ruin in the country; we have

recovered the old Jewish tombs, and are now enabled to classify and to date them; we have written down the names of the modern villages and ruins; we have found the remains of the synagogues and enabled the world to restore the synagogue of Capernaum—there are the Memoirs; and with them we have published the hundreds of drawings executed for us by Captain Conder and Captain Kitchener; we have, thanks to my friend Canon Tristram, who is never weary of doing something more for the Holy Land, given to the world this truly magnificent book, with its beautiful illustrations, on the Flora and Fauna of the country. We cannot too much congratulate ourselves, that is, our Society, nor can we sufficiently thank Canon Tristram, for the production of a book so admirable and so worthy of the subject. There is so much special interest in the Holy Land attached to its Natural History that it was absolutely necessary to supplement the survey by such a work as this, which could only be thoroughly taken in hand by such a specialist as Canon Tristram. It contains facts, otherwise unattainable, bearing on the questions of the distribution and modification of species. No other country affords so many opportunities for illustrating these questions. We have also in this volume, the last of a splendid series, produced a complete record of all that has been done in Jerusalem since the Ordnance Survey of the city was executed for the world by our friend Sir Charles Wilson in 1865. This book contains the complete and exact account of all Warren's work in the years 1867 to 1870. It also includes a paper on the Architecture of Jerusalem, and an account of the various work done in the city by Captain Conder, M. Clermont-Ganneau, Herr Schick, Herr Guthe, and others. We have to thank Captain Conder, whose name we are all glad to see on the title-page, for his hearty co-operation with Sir Charles Warren. I am sure we are rejoiced to see Captain Conder, who has done so much for the Society, increasing our obligations to him. Lastly, in this great portfolio, with its fifty plates, are figured the discoveries made by Warren. If it be asked why the plates have not been published before, we should have to give the history of Sir Charles Warren's busy and active life since he left Jerusalem. But at this point in our own work, and with these volumes in our hands, I think we should take the opportunity to pass a vote of our warmest thanks to Sir Charles Warren. I am happy to announce that, to the many honours he has won, the Royal Society has recently added one more. I am sure that he is as proud of being a Fellow of that noble Society as he is of wearing the Collar and Star of a Knight Commander of the most distinguished Order of St. Michael and St. George.

Lord Eustace Cecil: I am happy, Mr. Chairman, in the opportunity of seconding this vote of thanks. I can only add to your remarks that, though we shall never forget the work done at Jerusalem, we must also remember the work done by Sir Charles during the Zulu War, as Governor of Griqualand, in the region of mathematical science, and in the hunting down of Professor Palmer's murderers. I think, Sir, the Society singularly fortunate in its officers, but especially so in the case of Sir Charles Warren.

Sir CHARLES WARREN, in replying to the vote of thanks accorded to him, said: It has long been a dream with me that these plans should be published, and I am heartily rejoiced to find that sufficient funds have at last been found to enable this to be accomplished, for I have felt certain that as soon as they are in the hands of the public fresh interest will be excited in the topography of Jerusalem, and there will be a renewed desire to excavate there. Of course these plans can only be taken as an earnest of what is to be discovered in the future; we were obliged to break off in the middle of our work, but we had already accomplished one great section of our enterprise. We had obtained a fairly correct contoured plan of the ancient Jerusalem, and an accurate delineation of the ancient Temple wall. We had commenced quite in the dark as to the relative value of the conflicting theories, and have emerged with so much fresh knowledge that all the old theories have to be modified or abandoned. When the Sultan's Firman expired in 1870, and we were compelled to desist from excavating, I had already elaborated a project for a trigonometrical survey of Palestine, and pointed out that the original design for a mere reconnaissance was not applicable for the work in hand; I pointed out also that while the objects underground would keep a few years longer, the march of civilisation was rapidly erasing all records of the past above ground. The ancient ruins were being burnt into lime, the old names were giving way to modern appellations, and the records of the past were disappearing: it was necessary at once to proceed with the trigonometrical survey of Palestine and to leave Jerusalem. This work has been completed most successfully through the industry and perseverance of Captain Conder and his comrades, and the time appears to have arrived when we may again consider the question of excavating about Jerusalem. It would be expensive work digging near the inhabited portion, but happily there is the Hill of Ophel, on which, as has been stated, excavation may be made at a comparatively small expense. My friend the Rev. W. F. Birch, who now sits beside me, insists that here is Mount Zion, and is about to attack with a violent hand the position I have assigned to that ancient stronghold. Why not spend a small sum in excavating on Ophel and ascertaining whether he be right or not? There is much to be said on all sides of the question. I am sure that great interest would be attached to this work. There is a large section of the public interested in Palestine generally, but I think the feeling is more intensely centred in the Holy City.

After a vote of thanks to the Chairman, the Committee adjourned.

ABSTRACT OF OBSERVATIONS OBTAINED BY THE SCIENTIFIC EXPEDITION SENT OUT TO ARABIA PETRÆA AND WESTERN PALESTINE BY THE COMMITTEE OF THE PALESTINE EXPLORATION FUND IN 1883.

By Professor Hull, LL.D., F.R.S., F.G.S. (Geologist-in-chief).

The Committee of the Palestine Exploration Fund, in the summer of 1883, resolved upon sending out an expedition to examine the geological structure of the Jordan Valley and Western Palestine, together with that of the Valley of the Arabah, with a view to determine the mode of their formation and physical history. It was also intended to connect the triangulation of the district of Mount Sinai (Jebel Musa) with that of Western Palestine along the district of the Wâdy el Arabah; and to determine the elevation above the sea of the watershed (or "saddle") of that valley, with reference to the practicability of the projected "Jordan Valley Canal Scheme." Several collateral objects were also kept in view—such as the investigation of the sites of Ezion Geber, Kadesh-barnea, and other localities connected with the Israelitish migration and history; but in this place only the scientific aspects of the Expedition will be referred to.

Besides the author, who was put in command of the Expedition, the other members were Major Kitchener, R.E., and Mr. Armstrong (formerly Sergeant-Major, R.E.), who joined us in Egypt; Mr. H. C. Hart, Trin. Coll., Dublin, who had been a member of Captain Nares' Polar Expedition, and now joined as botanist and naturalist; Mr. Reginald Lawrence, Associate of the Royal College of Science, Dublin who acted as meteorologist; and Dr. E. Gordon Hull, who was appointed assistant and medical officer.[1]

The arrangements for providing camels, tents, food and supplies were undertaken gratuitously by the well-known firm of Messrs. T. Cook & Son, to whom it is only due to say that they did everything in their power for the comfort and safety of the members of the Expedition. A rendezvous of the whole party, including conductor, dragoman, and Arabs of the Towara tribe, took place at Cairo on the 7th November, 1883, and on Monday, the 11th of the same month, the party started for their desert journey from Moses' Wells (Ayun Musa), near Suez.

The route taken lay along the plain bordering the Gulf of Suez to Wâdy Gharandel, and thence by the Wâdies Hamr, Suwig, and Nasb, Bark, Lebwey, Berrah, and Es Sheikh, to the base of Mount Sinai (Jebel Musa). Thence, after a few days, in a north-easterly direction by the Wâdies Zelegah, Biyar, El Ain, Et Tihyah, and Ras en Nakb to Akabah.

Here the Arabs of the Towara tribe who had conveyed the party thus far were dismissed; and arrangements were entered into with the Sheikhs of

[1] Mr. Hart has considerably added to the recognised flora of the district traversed, and Mr. Lawrence has furnished a daily register of the temperature and aneroid readings. Dr. E. G. Hull brought home a large number of photographs.

the Alowîns for a convoy along the Wâdy el Arabah to Petra, and the shore of the Salt Sea (Bahr Lut). This having been effected, the party left Akabah on the 3rd December; and after visiting Petra, Mount Hor (Jebel Haroun), and several of the branching valleys on either side, reached Es Safieh on the 17th of the same month, and camped by the village of the Ghawarnehs, where they remained ten days, including Christmas Day. Horses and mules having at length arrived from Jerusalem, accompanied by a small escort of Turkish cavalry, the party crossed to the western shore of the Salt Sea, and after examining Khasham (or Jebel) Usdum (the salt mountain), ascended by the Wâdy Zuweirah towards the tableland of Southern Palestine, camping successively at Wâdy el Abd, Tel el Melh, Bir es Saba (Beersheba), Tel Abu Hareireh, and reaching Gaza on the last day of the year. Here the party would have been obliged to remain in quarantine for fifteen days but for the friendly offices of Lord Dufferin, the British Ambassador at Constantinople, who procured their release on the morning of the fifth day. They then proceeded onwards by Jaffa to Jerusalem, from whence excursions were made to the Jordan Valley, and other places around, and by which two complete traverses of Southern and Central Palestine were effected. The whole distance traversed was about 700 miles, of which 500 miles were on camel-back, the remainder on horse-back. A final expedition through Northern Palestine was then arranged for, but was brought to an end by a heavy fall of snow, which covered the whole of the tableland of Palestine to a depth of 2 feet and upwards. The party left Jaffa on their return to England on Friday, 25th of January, Major Kitchener having previously returned to Egypt.

Scientific results.—Before proceeding to give an outline of the scientific results of the Expedition, the author desires to express his obligations to the writings of previous explorers in the same field, especially to those of Russeger, Fraas, Tristram, and of MM. Lartet and Vignes, of the expedition carried out by the Duc de Luynes.

1. A complete triangulation of the district lying between the mountains of Sinai and the Wâdy el Arabah, including that of the Wâdy el Arabah itself, bounded on the west by the tableland of the Tîh, and on the east by the mountains of Edom and Moab. An outline survey along the line of route was also made, and has been laid down in MS. on a map prepared by Mr. Armstrong on the same scale as the reduced Map of Palestine, viz., $\frac{8}{8}$ inch to one statute mile, or $\frac{1}{168960}$.

2. Some important rectifications of the borders of the Salt Sea, and of the Gulf of Akabah, were also made.

3. A geological reconnaissance along the line of route through the districts of Sinai, Akabah, and the Wâdy el Arabah, including the following particulars:—

(*a*) Collections of fossils from the Wâdy Nasb Limestone, in addition to those already made by Mr. Bauerman and Colonel Sir C. W. Wilson. These fossils (which are being examined by Professor Gollas) go to show that this limestone is of Carboniferous age; the Wâdy Nasb limestone was found to continue over a considerable region north of Mount

Sinai, and was again recognised amongst the mountains of Moab on the east side of the Salt Sea in the Wâdy el Hessi. As this limestone rests upon a red sandstone foundation, this latter may also be assumed to be of the same geological age, and therefore cannot be the representative of the "Nubian Sandstone" of Russeger, which (as Professor Zittel has show) is of Cretaceous age. I propose to call this formation, therefore, "the Desert Sandstone." It forms with the limestone a strip along the borders of the ancient rocks of paleozoic or archæan age, and is about 400 feet in average thickness; the base is generally a conglomerate.

(*b*) Above the Wâdy Nasb limestone is another sandstone formation, of which a large portion of the Debet er Ramleh is formed. It is laid open in the Wâdies Zelegah, Biyar, &c., and along the mountains of Edom and Moab. Out of this rock have been hewn the ancient temples, tombs, and dwellings of Petra and the Wâdy Musa. It stretches along the southern escarpment of the Tîh plateau, and forms the base of the limestone cliffs along the margin of the Wâdy el Arabah as far north as Nagb el Salni. This sandstone formation is soft, red, or beautifully variegated, and is in all probability of Cretaceous age, and therefore the true representative of the "Nubian Sandstone" of Russeger. It will thus be seen that there are two red sandstone formations. one below, the other above the Carboniferous limestone of the Wâdy Nasb.

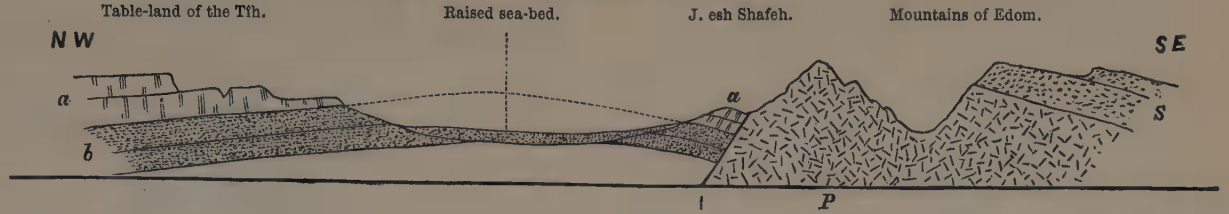
(*c*) The geological structure of the Wâdy el Arabah was examined throughout a distance of 120 miles from south to north. That it has been hollowed out along the line of a main fault, ranging from the eastern shore of the Salt Sea to that of the Gulf of Akabah, was clearly determined; and the position of the fault itself was made out and laid down on the map[1] in six or seven places, one being about ten miles north of Akabah, another near the watershed, in which places the limestone of the Tîh (cretaceo-nummulitic) is faulted against the old porphyritic and metamorphic rocks. I here give two sketch sections to illustrate the structure at these points (see p. 163).

There are numerous parallel and branching faults along the Arabah Valley, but there is one leading fracture running along the base of the Edomite Mountains, to which the others are of secondary importance; this may be called "The Great Jordan Valley fault." The relations of the rocks in the Ghor and Jordan Valley have already been shown by Lartet, Tristram, Wilson, and others, to indicate the presence of a large fault corresponding with the line of this remarkable depression, and the author considers the fracture he has observed in the Arabah Valley to be continuous with that of the Jordan.

(*d*) The ancient rocks which form the floor either of the Desert, or Nubian, sandstone formations, consist of granite, gneiss, porphyries, and more rarely metamorphic schistose rocks—together with volcanic rocks, consisting of agglomerates, tuffs, and beds of felspathic trap. The author

[1] The map used was an enlarged plan from Smith and Groves' Ancient Atlas (J. Murray).

SKETCH SECTION ACROSS THE WÂDY EL ARABAH.

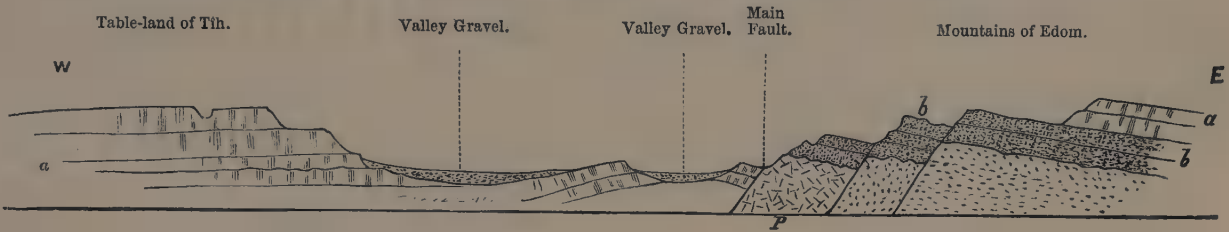


a.—Cretaceous Limestone resting on
b.—Nubian Sandstone, forming an arch under the valley.

Main fault.

Desert and Nubian Sandstone, resting on Granite and Porphyry.

SKETCH SECTION ACROSS THE WÂDY EL ARABAH, SHOWING ITS STRUCTURE NEAR THE WATERSHED, OR SADDLE.



a.—Cretaceous Limestone with Chert.

a.—Cretaceous Limestone.
b.—Nubian Sandstone.
P.—Porphyry and Granite Dykes.

is disposed to concur with Dr. Lartet in considering the gneissose and granitoid rocks to be of archæn (or Laurentian) age, as they are probably representative of those of Assouan in Upper Egypt, which Principal Dawson has recently identified with those of this age. The granites and porphyries are traversed by innumerable dykes of porphyry and diorite, both throughout the Sinaic mountains and those of Edom and Moab; and the author considers it probable that the volcanic rocks which are largely represented along the base of Mount Hor, and of Jebel Somrah near Es Safieh, are contemporaneous with these dykes. As far as the author was able to observe, none of these dykes penetrate the Desert or Nubian sandstones, and if so, they may be considered of pre-Carboniferous age. The upper surface of the ancient rocks was extremely uneven previous to the deposition of the Desert sandstone, having been worn and denuded into ridges and hollows; over this irregular floor the sandstone strata were deposited.

4. The occurrence of terraces of marl, gravel, and silt, through which the ravines of existing streams have been cut at an elevation (according to aneroid determination) of about 100 feet above the level of the Mediterranean, was taken to show that the level of the Salt Sea (Bahr Lut) at one time stood about 1,400 feet higher than at present. These beds of marl were first observed at the camp at Ain Abu Beweireh; they contain blanched shells of the genera *Melanopsis* and *Melania*. The beds of marl were observed to be enclosed by higher ground of more ancient strata in every direction except towards the north, where they gently slope downwards towards the borders of the Ghor, and become incorporated with strata of the 600-feet terrace.

The author concurs with Dr. Lartet in thinking that the waters of the Jordan Valley did not flow down into the Gulf of Akabah, after the land had emerged from the sea; the disconnection of the inner and outer waters was very ancient, dating back to Miocene times.

The occurrence of beds of ancient lakes—consisting of coarse gravel, sand, and marl, amongst the mountains of Sinai, and in the Wâdy el Arabah, where now only waterless valleys occur, taken in connection with other phenomena, have impressed the author with the conviction that the former climatic conditions of Arabia Petræa were very different from those of the present day. Such terraces have been observed by Dr. Post in the Wâdy Feirân, and Colonel Sir C. W. Wilson in the Wâdy Solaf, and by the author in the Wâdies Gharandel, Goweisah, Hamr, Solaf, and Es Sheikh or Watiyeh. It would appear that, at a period coming down probably to the prehistoric, a chain of lakes existed amongst the tortuous valleys and hollows of the Sinaic peninsula. The gypseous deposits of Wâdy Amarah and of 'Ain Hawareh are old lake beds, and Mr. Bauerman has observed remains of fresh-water shells (*Lymnaea truncatula*) and a species of *Pisidium* in "lake or river alluvium" of the Wâdies Feiran and Es Sheikh. ("Quart. Journ. Geol. Soc.," Vol. XXV, p. 32.)

7. The author considers it probable that these ancient Sinaitic lakes belong to an epoch when the waters of the Mediterranean and the Red Sea rose to a level considerably higher than at present, and when, consequently,

there was less fall for the inland waters in an outer direction. The evidence of a submergence, to a depth of at least 200 feet, is abundantly clear in the occurrence of raised beaches or sea beds with shells, corals, and crinoids of species still living in the adjoining waters. The raised beaches of the Mediterranean and Red Sea coasts have been observed by the officers of the Ordnance Survey, and by Fraas, Lartet, Schweinfurth, Post, and others. They were observed by the author at the southern extremity of the Wâdy el Arabah, and shells and corals were found round the camp of the 3rd December at an elevation of about 130 feet above the Gulf of Akabah.

These ancient sea beds are represented in the Egyptian area by the old coast line of 220 feet, discovered by Fraas along the flanks of the Mokattam Hills above Cairo, and recently described by Schweinfurth. (Über die geol. schichtungliederung d. Mokattam bei Cairo; Zeit. d. Deuts. Geol. Gesel, 1883.) The period in which the sea rose to this level may be stated in general terms as the Pliocene, but it continued downwards till more recent times; and the author believes that at the time of the Exodus the Gulf of Suez reached as far as the Great Bitter Lake (*Quarterly Statement*, April, 1884), a view in which he is supported by Principal Dawson, F.R.S. It is scarcely necessary to observe that through the longer portion of this period of submergence Africa was disconnected from Asia.

8. The Miocene period is not represented by any strata throughout the district traversed by the Expedition. The author considers that in this part of the world the Miocene period was one of elevation, disturbance, and denudation of strata; not of accumulation. To this epoch he refers the emergence of the whole of the Palestine, and of the greater part of the Sinaitic, area from the sea, in which the cretaceo-nummulitic limestone formations were deposited. To this epoch also he considers the faulting and flexuring of the strata is chiefly referable; and notably the formation of the great Jordanic line of fault, with its branches and accompanying flexures in the strata—which are very remarkable along the western sides of the Ghor. These phenomena were accompanied and followed by extensive denudation and the production of many of the principal physical features of the region referred to.

9. The evidences of a Pluvial period throughout this region are to be found (*a*) in the remains of ancient lake beds, (*b*) in the existence of terraces in the river valleys, (*c*) in the great size and depth of many valleys and gorges, now waterless except after severe thunderstorms, and (*d*) in the vastly greater size of the Salt Sea (or Dead Sea), which must have had a length of nearly 200 English miles from north to south at the time when its surface was at a higher level than that of the Mediterranean at the present day. The author considers that this Pluvial period extended from the Pliocene through the post-Pliocene (or Glacial) down to recent times. As it is known, from the observations of Sir J. D. Hooker, Canon Tristram, and others, that perennial snow and glaciers existed in the Lebanon during the Glacial epoch, the author infers that the adjoining districts to the south of the Lebanon must have had a climate approaching that of the British Isles at the present day;

and that, in a region of which many parts are over 2,000 feet in elevation, there must have been abundant rainfall. Even when the snows and glaciers of the Lebanon had disappeared, the effects of the colder climate which was passing away must have remained for some time, and the vegetation must have been more luxuriant down to within the epoch of human habitation. The author's views generally coincide with those of Theobald Fisher, as extended by him to a much wider area. ("Studien über das Klima der Mediterranean Lander," Peterman's Mittheilungen, 1879.)

10. The author considers that there are reasons for concluding that the outburst of volcanic phenomena in North-Eastern Palestine in the region of the Jaulan and Hauran, &c., has an indirect connection with the formation of the great Jordan Lake of the Pluvial period. The presence of water in considerable volume in now recognised as necessary to volcanic activity, and the author submits that this interdependence was brought about when the waters of the Lake stretched as far north as the little Lake of Huleh. These waters, under a pressure of several hundred feet, would find their way into the interior of the earth's crust along the lines of the great Jordan Valley fault, and of its branches, and thus supply the necessary "steam-power" for volcanic action. The period when the volcanoes of the Jaulan and Hauran were in action appears to have ranged from the Pliocene through the post-Pliocene to the beginning of the recent; when, concurrent with the falling away and partial drying up of the waters of the great Lake, the volcanic fires became extinct and the great sheets of basaltic lava ceased to flow.

If these views are correct, it would seem that during the Glacial epoch, Palestine and Southern Syria presented an aspect very different from the present. The Lebanon throughout the year was snow-clad over its higher elevations, while glaciers descended into some of its valleys. The region of the Hauran, lying at its southern base, was the site of several extensive volcanoes, while the district around, and the Jordan Valley itself, was invaded by floods of lava. A great inland sea, occupying the Jordan Valley, together with the existing comparatively restricted sheets of water, stretched from Lake Huleh on the north, to a southern margin near the base of Samrat Fiddân in the Wâdy el Arabah of the present day, while numerous arms and bays stretched into the glens and valleys of Palestine and Moab on either hand. Under such climatic conditions, we may feel assured, a luxuriant vegetation decked with verdure the hills and vales to an extent far beyond that of the present, and amongst the trees, as Sir J. D. Hooker has shown, the cedar may have spread far and wide.

11. The author has not thought it necessary to go into the question of the origin of the salinity of the Salt Sea, as this question is now fully understood. He is obliged to differ with Dr. Lartet in his view of the origin of the salt mountain, Jebel Usdum,[1] which he (the author) regards

[1] Lartet regards the strata of this mountain as belonging to the Nummulitic period.

as a portion of the bed of the Salt Sea, when it stood about 600 feet above its present level. This level exactly corresponds to that of the terraces, both along the south and east of the Ghor, formed of lacustrine materials. The upper surface of Jebel Usdum was examined by Messrs. Hart and Laurence, of our party, but previous explorers have considered the sides inaccessible.

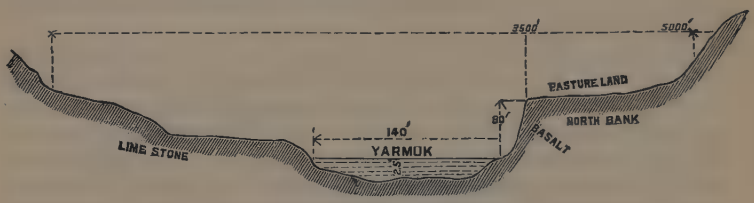
12. The author concurs with previous writers in considering that the Cretaceous and Tertiary periods succeeded each other over this region (at least as far as the marine deposits are concerned) without any important physical disturbances; in consequence of which the limestone formations of these periods are in physical conformity and are generally incapable of separation. It seems probable, however, that while the Nummulitic limestones predominate in the Egyptian and Nubian areas, those of the Cretaceous period were more fully developed over the area of Arabia Petræa and Palestine.

The scientific results of which the above is a summary are intended to be published *in extenso* by the Palestine Exploration Fund, together with a geological map of the whole district, and one on a larger scale of Wâdy el Arabah. The popular narrative of the Expedition will appear before the close of the year.

NOTES ON THE JAULÂN.

The map which accompanies these notes is the result of a flying survey made by my travelling companion, Mr. Schumacher, in the course of a short exploratory ride which I took with him up the valley of the Yarmuk, beyond the Baths of Amatha, as well as of a survey of the adjoining part of Jaulân, which he made with a view of investigating its practicability for a line of railway. As I did not accompany him upon this latter expedition, I will merely give the results of my observations of the valley of the Yarmuk. The hot sulphur springs of Amatha, with the remains which surround them, and which are mentioned by Eusebius as being second only in the estimation of the Romans to the Baths of Baice, have been visited and described by two or three travellers, and although a more accurate investigation of these interesting ruins would doubtless prove richly remunerative from an antiquarian point of view, my opportunities were too limited to enable me to add to the stock of existing information. So, probably, would be an examination of the impenetrable jungle of M'Khaibeh, with its extensive grove of date-trees, and its hot sulphur spring, which is situated on the other side of the river, and about two miles higher up it; but it would require a stay of some days to make the necessary clearings, and cut paths through the vast thicket which is now the haunt of wild boar and other wild animals, which make their lairs amid the ruins that it no doubt conceals. Beyond this point, the

river, so far as I am aware, has never been explored, and it was with the view of tracing its course as far as practicable that we started one morning last April from our camp at Amatha. Some idea of the volume of water in the Yarmuk at this season of the year may be formed from



SECTION ACROSS NAHR YARMUK NEAR HAMA.

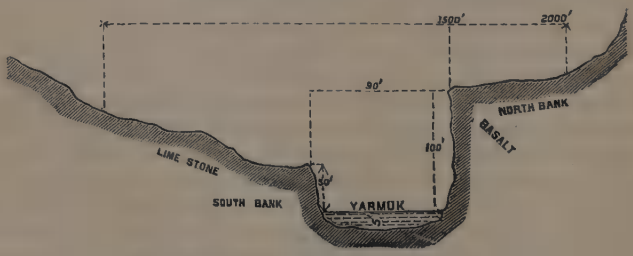
the fact that the river at this point was 140 feet broad, with a very swift current, that the water reached high up our saddle flaps, and that only four days previously the stream here had been unfordable. As, owing to the precipitous character of the banks, the river can only be followed by constantly crossing it, its present flooded condition augured badly for our success. Opposite M'Khaibeh the basalt cliffs rise abruptly from the foaming torrent to a height of about 300 feet, and I observed on their face the square openings into caves, which had evidently been the retreats of robbers at a former period, such as those who, as we know, in the time of Herod the Great, inhabited eyries of this description in the Wâdy Hamâm, near the Plain of Gennesereth. Huge eagles were sailing above them now. A little beyond M'Khaibeh the path diverged to the right, rising up the steep grassy spurs which descend from the forest-covered ridge, on the top of one of the summits of which are the ruins of Gadara, and so leading to the wooded plateau of Keferat. We declined to be seduced from our purpose by following this, and, although the natives assured us that there was no path up the valley, we decided to keep along a cattle track which soon led us to a precipice, across the face of which we had great difficulty in making our way. It had probably never before been used by anything but goats. We ultimately managed to scramble down it to the rocky margin of the stream, only to find it necessary to leave it again, and cross a high shoulder which formed another overhanging clift. The view from this point was very grand—indeed I do not know any finer scenery in Palestine than that afforded by the gorges through which the Yarmuk cuts its way between the elevated plateaus of Jaulân and Ajlun to the Jordan Valley. Here the limestone and basalt formations meet, and in places one is superimposed upon the other, forming a black and white cliff of most singular aspect. Above the precipices on its right bank, which immediately overhang the river, are steep grassy slopes running up to the base of another series of cliffs, above which is the level plateau ; on the left bank, which we were following, the cliffs are more broken and less lofty, the lateral valleys deeper and more irregular, and the grassy slopes in their descent soon meet the oak woods which show against

the sky line on the summit of the ridge. The upper edges of the plateau are from one to two miles apart in an air line, while the bed of the river is about 1,400 feet below them. After scrambling with great difficulty as near the bottom of the valley as we could, for about two hours, we reached a point where the side of the mountain having slipped away, exposed a sheer precipice of about 1,000 feet, and formed a mound in front of us, round which the river curled, as it swept under an opposite cliff. Here progress seemed barred on both sides, but seeing some Bedouin tents on the opposite bank, pitched on a level patch near the river of which they had taken advantage, we determined to attempt a ford with a view of interviewing them; for we had dispensed with a guide, my experience in exploratory travel having led me to the conclusion that guides generally take you in the direction which they want to go, and you don't. When the Arabs saw us approaching the river with the intention of fording it, they waved us back, and, in fact, the crossing, owing to the huge boulders, and the depth and swiftness of the current. was not without risk and a wetting; and they told us that we had crossed where there was no ford, and though the attempt had succeeded, it would be folly to make other attempts of a similar nature higher up. These people were not Bedouins, but sedentary Arabs from the village of Somma, who camp at this season in the valley to look after their grain and pasture their flocks; the name of their present camp was Zubennis. They received us with great hospitality, and, indeed, though the valley is reported unsafe, we found nothing to justify its reputation. We had not long left the Arab camp before we found that their account of the impossibility of a further ascent was correct. Perhaps at the dryest season, by taking advantage of the river bed, the attempt would be practicable; as it was, we reached a point a little below the junction of the Wâdy Rukad with the Yarmuk.

As the Arabs had told me that on the summit of a high-crested hill opposite, called Kalat el Hösn, I should find ruins, I determined to recross the river at our former ford, and climb up to them. This, after a hard scramble, we succeeded in doing. Here I found a Khurbet, covering a few acres of ground; from its position on the summit of an almost pyramidal hill, it was evidently an ancient fortress. In places the drafted stones were still standing on the old foundations; there were some cisterns, and in the neighbourhood some rock-hewn tombs; the sides of the loculi, however, were completely broken away in the only ones the entrances to which admitted of examination. Unfortunately the name is too common to be of any assistance for purposes of identification. The elevation of Kalat el Hösn above the sea by my aneroid was 870 feet, and above the river about 1,000. I now made for a still higher summit, called by the natives Tel el Hetaliyeh: this has an elevation of 1,020 feet, and forms in fact the crest of the mountain, at the point where the slide already mentioned occurred. From the edge we looked sheer down a giddy height of at least a thousand feet. From this point we had a commanding view of the valley of the Yarmuk, and up the Wâdy Rukad, also of the Jaulân plateau, with the village of Dabusieh on its opposite edge. The interesting features of the Yarmuk

which have yet to be visited are its cataracts ; one of these will, I think, be found just above Tel el Ashera, the other possibly not far below it, but the upper one must be the most important. The fall of this river in the course of seven or eight miles must be at least 2,000 feet, and with its volume of water in the spring must afford a magnificent spectacle. My hope on the occasion was to have visited this waterfall, but I was unfortunately unable to complete my trip as I intended. The Allan, the Rukad, and other tributaries of the Yarmuk each have their own waterfall before joining the river. Mr. Schumacher, who has seen the fall of the Rukad, tells me that it falls at Jamly 300 feet in an unbroken sheet of water over a precipice.

We now struck, by a path we found through the woods, in a south-easterly direction. The oak trees grew sparsely, like those in a park, over the rich plateau, now carpeted with wild flowers. The precipitous ravines which intersected this upland, and which were sometimes covered with a dense undergrowth, frequently compelled us to depart from the direction which our compasses suggested as the proper one, and after riding for about three miles we were getting into despair at ever finding a practicable opening to the westward, when we fortunately came upon some peasants, who put us in the way. At this point I found two handsome sarcophagi, some tombs, hewn stones, and all the evidences of an ancient site, and on inquiring if it had a name was told *Haleebna*, which being interpreted means "Our milk." Thus our ride, if it had not been so productive of additions to the geography of the Yarmuk as I could have desired, furnished us with two hitherto unknown sites of ancient towns. Our way now led us down a lovely and romantic gorge, called the Wâdy el Humra. The elevation of the plateau at the point where we commenced the descent was 1,250 feet above the sea, and 1,800 above the Baths of Amatha. A little spring which we came upon near the head of the valley we were now descending soon swelled into a purling brook ; the steep and rocky hill-sides which rose abruptly from it were thickly clothed with a rich undergrowth, which on our right was broken off near the bottom into a precipitous white limestone cliff. Here we emerged upon



SECTION ACROSS THE YARMUK AT BIRKET EL ARAIS.

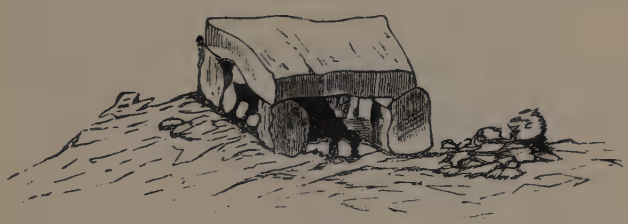
the grassy spurs whichslope down to the Yarmuk, and came suddenly upon a pool of water, about a hundred yards long by fifty broad, called the

Birket el Arais, or Pool of the Bride. We had now reached the limits of former exploration, and in half-an-hour found ourselves once more skirting the jungle of M'Khaibeh, and within sight of our tents, after a ride of much topographical interest, and a beauty of scenery unsurpassed by anything in Palestine.

LAURENCE OLIPHANT.

The map which accompanies this report traces the course of the Yarmuk from the Jordan Valley to its junction with the Nakr Rukâd and part of the course of the latter, the Wâdy es Sammuk, and the Nakr 'Allân. It embraces also the ruins and villages of Hama, Debusîyeh, Jamly, Kefr Elma, Fîk, Hetîn, Tsîl, Adwân, &c. The heights are given, with a great amount of information on the character of the ground, &c. At Tsîl were found a large collection of dolmens, one of which is sketched and is here figured.

DOLMEN NEAR TSÎL.



Dimensions.

	ft.	in.
Length of table stone	5	0
Breadth	2	6
Height from ground	2	0

PRÆ-EXILIC JERUSALEM.

ABSENCE from England has prevented me from returning an earlier answer to the objections raised by Captain Conder and Canon Birch to my views in regard to the topography of præ-exilic Jerusalem. I will now try to atone for the delay, and do my best to meet the thrusts of my doughty antagonists.

I will take Captain Conder first, more especially as Canon Birch agrees with me about what is, after all, the main point, that is to say, the site of Zion. My statement that Dr. Guthe had discovered a valley separating Zion from Moriah, and had come across Solomonic walls to the south of the lower Pool of Siloam, was derived from his report upon the explora-

tions he had undertaken on the so-called Ophel-hill in conjunction with Mr. Schick. This report was published last year, with elaborate plans, in the Journal of the German Palestine Society. I had not myself seen either the walls or the indications of the valley, and had no idea that Dr. Guthe's assertions in regard to them were not to be trusted.

Captain Conder has misunderstood my meaning in thinking that I propose to confine the inhabited Jerusalem of the royal period to Zion, the City of David. On the contrary, I hold that the Jebusite town stood on the Temple-hill, and that this town continued to be inhabited, first of all by Jebusites during the reign of David, and subsequently by the retainers of the Court, the servants and slaves of the Temple, and, as the book of Nehemiah informs us (iii, 31, 32), by "the merchants" and goldsmiths as well. Captain Conder seems to have had in his mind the Temple area of later times, and to have forgotten that the Temple-hill was once thickly populated like the City of David itself. Modern criticism has shown that the Temple of Solomon was a sort of chapel royal attached to the palace, and the whole building would appear from the measurements given in 1 Kings to have been of comparatively small size. But even so it was intended to accommodate a large number of people, though it by no means occupied the whole of what I mean by the Temple-hill. When it is further remembered that the walls of the lower city extended sufficiently far south to enclose the Pools of Siloam, it is evident that the size of Jerusalem, for an ancient city, was by no means despicable. One has only to take a model of modern Jerusalem to see that it was well worthy of being the capital of a small kingdom like that of Judah. How would ancient Hebron have compared with it in respect of size? What has struck me more than anything else when examining the sites of the famous cities of Greece and Asia Minor is what is in our eyes the extremely small area which they cover. Ancient Jerusalem, according to my conception of it, was large by the side of them. But, as Mr. Besant has noticed, we have a conspicuous example of the same fact in our own country. Old Sarum "contained a cathedral with a monastery, a castle and a town, all within a space large enough for a London square garden." Those who have visited the Palatine Hill at Rome must have observed with astonishment the diminutive size of primitive Rome. Not only were the inhabitants of these old cities closely packed together, but many of them lived habitually outside the walls, and only came into the city in times of danger. Moreover, where there is a large slave population, and houses more than one story high, the amount of population per acre is very considerably greater than Captain Conder would allow. Hence, to sum up, according to my theory, "the capital of Syria, in David's time," did not occupy "only 8 acres," but a great deal more, and I see no difficulty in believing—I do not say that it is necessary to believe—that it was populated at the rate of "$2\frac{1}{2}$ yards by 2 yards per soul."

Captain Conder next assumes that I value Josephus "at a very low estimate." I know not why he should bring this accusation against me, as I am quite ready to believe whatever Josephus may say, provided it is not

contradicted by external or internal evidence. Certainly I have never written of him, as Captain Conder has done ("Handbook to the Bible," p. 368), that "inconsistency, inaccuracy, and exaggeration are thus plainly discoverable in the measurements given by Josephus."[1] But I cannot see that the passage he quotes from Josephus (5 "Wars," iv, 2) supports his views, unless we suppose that the Jewish historian stated what he knew to be contrary to fact. Here is Captain Conder's translation of the passage: "David and Solomon and the succeeding kings were very zealous about this work (*i.e.*, the wall). Now that wall began on the north, at the tower called Hippicus." Does Captain Conder think that Josephus can in these last words be referring to a wall built either by David or by any of the other early Jewish kings? If he is so referring, he would be making a false statement, which would invalidate all else that he says about the matter. Every one knew that the tower of Hippicus did not belong to præ-exilic Jerusalem. It is plain that Josephus is describing a wall such as it existed in his own time, some portions of which had been built by David, other portions by Solomon, other portions again by later kings, while the portion which began at the tower of Hippicus, and was, therefore, in connection with this work of fortification, was constructed in the Herodian period.

I now come to Canon Birch. We, at all events, agree in having a common basis of operations from which to start, though he seems to me unnecessarily to complicate and endanger his views by supposing that the City of David stretched across a deep valley—a phenomenon without precedent, so far as I know, in the annals of *primitive* towns. His opposition to my conclusions rests upon the assumption that "before the Siloam Tunnel was made, the waters of Gihon (Virgin's Fount) *flowed softly* to Siloam along an aqueduct on the eastern side of Ophel."[2] If this

[1] Captain Conder, who maintains that Akra was the hill westward of the Temple-hill, must consider Josephus to have been similarly inaccurate in his description of the levelling it underwent in the time of Simon the Hasmonean. Josephus (13 "Antiq.," v, 6; 5 "Wars," iv, 1) asserts that its summit was removed in order that it might no longer dominate over the Temple-hill, but that on the contrary the Temple might stand "higher" than the citadel, a third hill over against it, and separated from it by the "broad" Tyropœon valley, which was "naturally" lower, being thus raised above it. Now the summit of Captain Conder's Akra is 2,488 feet, or 56 feet higher than the highest part of the Haram; while the third hill, Captain Conder's Zion, can only by a stretch of language be said to be divided from his Akra by the Tyropœon valley. This latter hill is marked as 2,535 feet high, or 103 feet higher than the Haram, in his plan. Nor do I see how Captain Conder can explain 13 "Antiq.," ix, where the close contiguity of the citadel to the Temple is mentioned along with the fact that the soldiers of the citadel were able to run out and injure the Jews as they were going up to worship. How could this have happened except on the western side of the Temple-hill if the citadel was where Captain Conder would place it?

[2] Captain Conder asks, "Is it necessary to conclude that 'the waters of Shiloah that go softly' (Isa. viii, 6) were running in an aqueduct? May they not have run in an open stream down the valley?" The answer is that, as M. Deren-

aqueduct is not discovered, he will "admit the overwhelming weight" of one of my arguments. After the failure of Sir Charles Warren to find any traces of this hypothetical aqueduct in the galleries with which he undermined the eastern side of the so-called Ophel, I think I might be excused from replying to any of the arguments Canon Birch has urged against my counter-theory. I have, at least, facts on my side; he only a conjecture, which excavations have hitherto failed to support. I will, however, deal with them in due order.

(1) I doubt whether fulling was ever carried on at a tank the water of which was used for drinking. Was it likely that cloths would be washed at the spring on which all the fresh water supply of Jerusalem depended? Moreover, if this spring were the Gihon of Scripture it would not be En-rogel. On the other hand, the word *En* shows that a mere reservoir is not meant.

I see no reason for considering "the old pool" to have been on a higher level than the Pool of Siloam, unless we imagine that it was fed from the Virgin's Fount. But for this we have no authority.

(2) *Public* threshing-floors were naturally outside the walls; Araunah's was a *private* floor.

I thought that it was agreed by all Hebrew scholars and critics that the expression "*the* house," unless specially qualified, signified "the house" *par excellence*—that is, "the house of God." Can Canon Birch find any other meaning for the phrase?

I must protest against the statement that my interpretation of 2 Samuel v, 8, is a "popular error." The Hebrew tenses admit of no other; we have *waw consecutivum* in each clause. The narrative sets before us a sequence of events. First of all, David went to Jerusalem (verse 6); then (*waw consec.*) "it was said to David," &c.; then (*waw consec.*) David took the stronghold of Zion which is "the City of David" (verse 7); then (*waw consec.*) David said "on that day," &c. (verse 8). What happened, therefore, was this. David appeared before Jerusalem, where he was taunted by the Jebusites; then he first captured the outpost of Zion; and after this, but on the same day, he promised rewards to "whosoever getteth up to the gutter, and smiteth the Jebusites." The flower of the Jebusite garrison was in the outpost of Zion; Jebus itself was considered sufficiently strong to be protected even by the blind and the lame.

Where is the proof that "Araunah betrayed Zion?"

I will leave Professor Robertson Smith to defend himself, which he is well able to do, and pass on to the last arguments Canon Birch brings against me. He begins by asking me to account for "the old arch anterior to" Robinson's. I confess I do not know what he means by this; does he mean the base of the pier of the bridge 42 feet below the surface, and on a level with the stone pavement of the Herodian age? In any case an arch

bourg was the first to point out, the meaning of the word *Shiloah* shows that they ran through a tunnel. Moreover, a valley stream in Palestine does not usually "flow softly."

in Palestine has only one meaning that I can see; its age is not earlier than the Græco-Roman time.

As I have not expressed myself with sufficient clearness in regard to Warren's tunnel, I will now quote the succinct description of it given by Mr. King, in his lately published "Recent Discoveries on the Temple-Hill at Jerusalem":—"Near the upper end of the [Siloam] tunnel, and only 50 feet from the Virgin's Fountain, the engineers came upon a lateral passage cut in the rock, and extending westwards into Ophel hill. The passage was nearly choked up with hard mud, but being cleared out was found to be 17 feet long, leading into a small chamber, with the floor scooped out in form of a basin. This basin is evidently a receptacle for water, and being 3 feet lower than the bottom of the tunnel, the supply was obtained from the Virgin's Fountain. Over this small chamber is a large shaft cut through the solid rock, 40 feet in height. At the top was found an iron ring fixed in the rock overhanging the shaft, to which ring a rope would be attached for hauling water up in a bucket. From the shaft a great corridor leads to a staircase, and that again leads to a chamber with a vaulted roof. The entrance to this passage was from the top of Ophel at a point a few feet below the ridge."

The careful workmanship of these passages, the niches for lamps—a Græco-Roman invention,—the iron ring, and the fact that the lower conduit led into the winding Siloam Tunnel, all go to show that this lower conduit was later in age than the Siloam one. In fact, the basin with which it terminates can only be explained on the hypothesis that it was intended to receive the surplus water of the Siloam Tunnel. If such a Tunnel had not already existed, the flow of water from the Virgin's Fountain would soon have choked both basin and conduit. How the vertical shaft, up which the water was hauled in a bucket, can be identical with the *tsinnor*, or "waterfall," of 2 Samuel v, 8, is more than I can understand.

A. H. Sayce.

FRESH NEWS FROM KADESH.

By H. Clay Trumbull.

(*From the "Sunday School Times," April 26th*).

It will be remembered by those who are at all familiar with the doubts and discussions concerning Kadesh-barnea, that the first modern discovery of the site of that ancient camping-ground of the Israelites was made, in 1842, by the Rev. John Rowlands, an English clergyman; and that for nearly forty years after his visit to it, every effort at its re-finding proved abortive. Such experienced Oriental travellers as Abeken, Professor Palmer, Dr. Thomson, President Bartlett, Dr. Schaff, and others, from Germany, England, and America, sought in vain to reach that jealously

guarded and strangely illusive site ;[1] until, indeed, its very existence came to be involved in serious question.

It is also known to many, that while passing over the desert from Mount Sinai to Hebron, in the spring of 1881, I was enabled to re-find that site, and to confirm at every point the accuracy of Mr. Rowlands's observations and descriptions. In a recently published volume giving the result of my own observations in, and subsequent studies concerning, Kadesh-barnea, I took pleasure in showing how much credit was due to Mr. Rowlands for his energy aud efficiency as an explorer ; and I dedicated the volume to him, and to the memory of two other Englishmen who had been engaged in similar researches. And now comes an interesting and an unexpected sequel to this story of Kadesh and the huntings for it.

Even since my re-finding of 'Ayn Qadees—the site of Kadesh-barnea —several attempts to visit it, or even to pass in its vicinity, have proved unsuccessful. Professor Post, of the American Protestant College at Beyrout, and his travelling companion, the Rev. Dr. Field of New York, were unable to secure an escort for the direct route Hebronward, from Castle Nakhl in the mid-desert, which would have carried them near the site in question. An English party of travellers was similiarly disappointed. Mr. Edward L. Wilson, of Philadelphia, a man of exceptional energy and determination as an explorer, was also unsuccessful in his diligent search for 'Ayn Qadees ; although he had the assistance of my faithful dragoman Mohammed Ahmad Hedayah. During the past winter, an expedition from England, under the auspices of the Palestine Exploration Fund, was sent into the desert for the purpose of certain specified investigations, including a visit to the site of Kadesh-barnea. This expedition was led by Professor Hull, and accompanied by Captain Kitchener, an officer of the Royal Engineers, who has had large experience in Oriental surveys. Its results have proved of importance in many other directions, but not in that of Kadesh-barnea. In a personal letter recently received by me, Mr. Walter Besant, the Secretary of the Palestine Exploration Fund, says : "Kitchener has been across the [Desert of the] Tîh, and found some curious old roads, &c. And he has also surveyed the Wâdy 'Arabah. He was anxious to visit Kadesh, but could not get there. Is it not strange how that place eludes search ? "

But what of Mr. Rowlands, all this time ? He has now reached the ripe age of seventy-five years, and is still in the active duties of the ministry, in a quiet English parish. This fresh and world-wide interest which had been awakened in the results of his early travels, quickens his old-time zeal in Oriental research, and he coolly packs his carpet-bag for another journey, and taking several members of his family with him he pushes on to Egypt, crosses over into the Arabian desert, clambers Mount Sinai, and then presses northward toward Hebron, stopping to take a look at 'Ayn Qadees, and show it to his children, as he goes by ; incidentally

[1] See the late Mr. Holland's Map and Notes, *Quarterly Statement*, Palestine Exploration Fund, January 1884, p. 9.

making fresh investigations into the site of the old home of Hagar, near the fountain which is on the Wall Road into Egypt, between Kadesh and Bered (see Gen. xvi, 7–14); and all this as deliberately and as easily as if he were going from one corner to another of his home garden, having the assistance of Arab servants who stood ready to do his bidding at every turn.

"I received your letter," he writes, "as you will be surprised to hear, at Cairo, in Egypt, in the course of a great tour I have undertaken for my son and daughter, who are with me, together with a niece as companion to my daughter; first through Italy, then through Greece, then through Egypt and Palestine, and back from Beyrout to Smyrna, Constantinople, and the Danube. I had not intended coming here [to Palestine] through the wilderness, meaning only to take my children to Mount Sinai and back to Suez, and from thence proceed by the Canal, Port Saïd, and Jaffa, to Jerusalem. But having received your letter, I felt very much tempted to go direct from Mount Sinai through the great wilderness, by Kadesh and Hebron, to Jerusalem, that I might be able to write to you from Jerusalem, and say that I had paid another visit to Kadesh; and finding some difficulty in our way by Port Saïd and Jaffa, on account of a state of quarantine at Jaffa, and the prospect of its continuance, I determined to take the course through the heart of the wilderness from Sinai by Kadesh to Jerusalem. But I found it too much for me at my time of life. I was quite knocked up for several days before we reached Jerusalem, and never was a hotel so welcome to me as the Mediterranean Hotel here on our arrival at Jerusalem, last Saturday; and the *rest* I have enjoyed here since. I have been regaining strength ever since, but I do not mean to move from this place for the north of Palestine until my health and strength are quite restored. I should like very much to give you a little sketch of my journey through the wilderness both to and from Sinai. But I feel quite unequal to it. The least thing, even to write a few lines or do anything, is for the present an effort to me. But I must say a few words about Kadesh, or 'Ayn Kades, and Moilahhi, or, as I take it to be, Beerlahairoi. We came first to Moilahhi, as the Arabs of the neighbourhood call it, and not Muweileh as many others call it, and they add (*i.e.*, the Arabs of the neighbourhood) in a very emphatic manner, the name Hagar, insisting on its being called Moilahhi Hagar, meaning not "a stone," but "a woman," Hagar, the mother of Ishmael. The Teyahahs, our conductors from Nakhl to Hebron, or to near Hebron, who were not so well acquainted with the localities nor so faithful and true as the Terrabin who conducted me before in these parts, tried to impose upon me by showing me a paltry little cave near, or close to, the ground, as the house of Hagar. Of course I knew better. The house of Hagar, or "Beit Hagar," as the Arabs of the place call it, consists of one principal square chamber, not a cave, but cut square out of a rock in the side of a precipice at some height from the ground, with a staircase leading up into it, and two smaller interior chambers for dormitories. The little crystal stream at Kadesh we found still flowing from the rock. But the appearance of the place is very much altered and spoiled by the Arabs,

who have digged a well close by, and the camels who gather round the well have trampled all the green slope. It is a great pleasure to me to tell you that I have seen the place again."

Mr. Rowlands' further claim as to the Arabic name of the supposed fountain of Hagar, is of importance in an effort at its identification. If he can now give the Arabic equivalents of that name, he will make the matter clear. The well of Hagar was called in the Hebrew, "Beer-lahai-roi," which means "Well of the Living One who Seeth," or "Well of the Living one of Vision." If the Arabic term is "Mâ-lehayy-rái," the meaning is "Water of the Living One Seeing;" which corresponds very closely with the Hebrew. Possibly Mr. Rowlands did not make sure of the Arabic equivalents of the term.

THE SEPULCHRE OF SHEBNA.

Isaiah xxii.

Every one interested in Biblical topography must have read, more or less attentively, the controversy which has lately appeared in the *Quarterly Statement* concerning præ-exilic Jerusalem. I have been watching it for some time, more especially because I wished to obtain information upon a certain point to which my attention was recently drawn by a careful investigation of the original of the above chapter. The sepulchre of Shebna may have been long known to explorers; but if it has been pointed out anywhere, I regret that I have overlooked it. Since, then, the above-mentioned controversy was not continued in the last number of the *Quarterly Statement*, I trust I shall be permitted to bring this one point again before your readers; and shall deem it a great favour if any explorer would be kind enough to say whether traces can be discovered of the work to which I conceive the prophet here to refer, and which, if I estimate it correctly, was a local event of stirring times in the days of Hezekiah.

The chapter (Isa. xxii) upon which my question is founded is, I must premise, acknowledged to contain some very difficult passages. In order, therefore, to make the object of this paper clear, I must also show my views of the meaning of some of these passages. According to the textual heading of the chapter the "Burden" belongs to "the valley of vision." This I take to mean either the valley in which the prophet lived, or that low-lying street in the heart of Jerusalem in which most public sights were seen. The prophecy is divided into two parts: verses 1–14 a prophecy concerning the whole people, and verses 15–25 a prophecy concerning two individuals, Shebna and Eliakim. I take first the latter part, because, when we understand this rightly, it will help us to understand the whole. In verse 16 the prophet says: "What hast thou here

and whom hast thou here, that thou art hewing thee here a sepulchre ; thou hewer of thy sepulchre on high, graver of thy habitation in a rock?" This is spoken to Shebna, and it seems to me to be the most important link between the two parts. But the latter portion of this verse, which I have translated in agreement with the awkward renderings commonly accepted, may, with greater grammatical accuracy, be translated thus: "My hewer has his sepulchre on high; my digger has his dwelling on a rock." This rendering, whilst it takes nothing from the clearness of the chief event here referred to, adds a hint at another circumstance in the history. The terms *digging* and *hewing*, though used in allusion to a great work, an extensive quarrying, which, as we shall see below, was being done at that time in the sight of all men, must evidently be understood here in a figurative sense. The precise signification of the figure may not be obvious to us at first sight, but was undoubtedly well understood by Shebna, to whom the words were addressed. Yet when we compare this with what is further said concerning Eliakim, then the conclusion forces itself upon us that the above figures signify gain ; so that "my hewer" is he that seeks my gain ; and in this sense, by the way, the sentence reads like a motto which might be an inscription over a sepulchre or on a tombstone.

For this is what we may call a new paragraph in the history of Jerusalem, combined with contemporary prophecy, and not found elsewhere. From this history it appears that Shebna and Eliakim had one after another held a high office in the kingdom, and that each in his turn had made himself unworthy of it by abuse. Their respective abuses, however, did not proceed from the same but from two different causes. Thus Shebna is denounced for seeking gain for himself who had no friends either to share it with during his lifetime, or to leave it to after his death (verse 16), but seemed to accumulate his treasures only to waste them upon a sepulchre which he apparently was making in a rock. Eliakim's fall, on the other hand, is predicted on account of his too many friends. He had large connections of all kinds, small vessels, and vessels of cups and bottles, as they are ironically called (verse 24) ; and he, after being raised to Shebna's place, or perhaps higher than he, is represented as allowing himself to be used by them as a handle for promoting the interests of them all. The figure by which the prophet describes Eliakim's nepotism, is peculiarly striking and beautiful. He is like a well-fixed nail upon which all these vessels are hung. For through his means his numerous friends try to elevate themselves to high honour, and endeavour to obtain many riches. The prediction, therefore, is given of his entire collapse, together with the burden of them all hanging upon him (verse 25).

Now it is not easy to fix with certainty the exact date of this prophecy. Owing to the shifting nature of the Hebrew verb, and to the free use poetic writers often make of its various forms for one and the same tense, it is not impossible that it was written during Eliakim's *régime*. Yet it is better to keep to the observable time-notes in both parts of the chapter ; and these, together with the lively pathos, and the vividness of the scenic descriptions,

rather point to the conclusion that it was the time when Shebna was seen quarrying the hill-side, and that the subsequent events are only declared as prophecy. As regards certain works which are hinted at in the first part of the chapter, viz., those of collecting the water of the numerous springs (בקיעי not "breaches") of the City of David, of making a reservoir or artificial pool between the two walls instead of the old natural pond, and of destroying houses in order to build up a wall (verses 9–11 ; cf. 2 Kings xx, 20 ; 2 Chron. xxxii, 4, 5, 30), these are undoubtedly referred to as works done before. However, the thing we ought to expect as a proof that there was a quarrying which was the immediate cause of the prophet's writing, is an allusion to it in the first part as well as in the second ; because, in all likelihood, both parts were written at the same time. Now the sepulchre is not mentioned in the first part ; nor was it likely in itself to have given such great offence as to be the cause of these solemn utterances. Shebna only did there what was the custom of his age and country to do. But the sepulchre may have been only one of the objects of this quarrying ; whilst another, though not mentioned distinctly, may have been the chief cause of these severe denunciations. Such an object, indeed, and the allusion we are seeking, can, in my opinion, be discovered together in a few words in verse 5. There the prophet says : "For a day of trouble, and treading down, and consternation with the Lord of Hosts in the valley of vision is"—what ? The words which follow, מקרקר קר ושוע אל ההר, have greatly embarrassed translators. But is there anything against my rendering them "is that of him that quarrieth the wall (*i.e.*, the natural wall or the face of the rock) and of widening along the mountain ?" If there is nothing against this—and I believe it expresses a very natural signification of the words—then consistency runs through all the parts of the chapter, and then also what an important incident in the history of Jerusalem is here brought to light, but would have been lost without this notice of it !

The picture represents an extensive widening of the valley. Shebna seems to be the chief mover of the undertaking, using his position for the purpose of promoting it, and apparently at the same time making it a means of furthering his own interests. Though the sepulchre mentioned at verse 16 were not a reality but a predictive hint only, yet some selfish end was clearly mixed up with his interest in the work. Eliakim, on the other hand, then evidently in an inferior position, was probably opposed to it. Many people are on their flat Eastern housetops, debating the advantages and disadvantages of the work with much excitement and noise, the majority of them perhaps also watching its progress with demonstrations of joy (verses 1, 2). Then comes the royal prophet, more excited and more agitated with deep-felt feelings than all, and denounces the work together with other national follies of which they have been guilty on former occasions, as matters of weeping and consternation rather than of joy (verses 4, 5). For this work seems, moreover, to have been commenced soon after a battle which was fought perhaps in the immediate neighbourhood of the scene. The results of that battle are forcibly

described in another graphic verse (verse 3), which, although written with exquisite characteristic parallelisms, has been greatly misunderstood, but should be rendered thus :—"All thy officers who have fled together from the bow are bound. All thy captives" (*i.e.*, the prisoners thou hast taken) "who were bound together from afar have escaped." What, then, under these humiliating national circumstances, will be the result of this widening of the valley that was now being done under Shebna's auspices? Verse 7, whether it is history or prophecy, was undoubtedly written to point out this result or the kind of result which they should expect. "And it came to pass that the best of thy valleys were full of chariots" (*i.e.*, the chariots of Elam and Kir mentioned in the preceding verse), "and horsemen set a firm foot in the gate." But we do not know, unless it can be ascertained from the rock itself, whether the prophet's righteous indignation and inspired denunciation resulted in the immediate relinquishment of the work.

My question, therefore, now is, Can a hill-side be found with an escarpment which looks like a widening or the beginning of widening of a low entrance into Jerusalem? If so, and if a sepulchre can also be discovered in a prominent position in the wall, it is that of Shebna, and a most difficult chapter in the Bible is explained. I only add, in conclusion, that, though the sepulchre be found, Shebna's bones will not be found therein; because (according to verse 18) he was ultimately to be a prisoner and to die in a broad land—*i.e.*, in a land that is flat and has no rocks for sepulchres: therefore far away from Jerusalem, near which there is hardly any flat country at all.

E. Flecker.

BOUNDARY BETWEEN "JUDAH AND BENJAMIN."

Even with the great progress we have made in the knowledge of the Holy Land, the accurate laying down of the *boundaries of the twelve tribes* of Israel presents much difficulty. When one reads the double descriptions of the boundary between "Judah and Benjamin" (Josh. xv, 5–11, and xviii, 15–19), it seems, as so many places and points are mentioned, and since we possess such an accurate map of the Palestine Exploration Fund, that to trace this boundary out on the map would be an easy matter. But if one tries this he soon finds difficulties, especially at the most important part, viz., in and about the neighbourhood of Jerusalem.

As far as I have learned the country, and according to the studies I have made on this subject, I draw the boundary line as follows:—According to Joshua xv, 5, and xviii, 19, the boundary began towards the east at the "bay" of the sea, or the small peninsula at the mouth of the Jordan—exactly speaking, from the mouth of "Khaur el Kutuf;" it went in a north-west direction over to the "Khaur (or ravine) Wâdy

Makarfet," to the point where it breaks through the old bank of the river, and then along this ravine to a point having "Beth-hoglah" in some distance opposite in the *north*. This town[1] was, as I am persuaded, situated at or near the present "Kusr Hajleh," and the spring, north-east of it, had the name from the town. The triangle-shaped tract of land, lying between the Jordan—the base line—and the lines in the north, the old bank of the river; in the south, Benjamin had the already mentioned boundary line, called by the Arabs "Ez Zôr" (forming the two other lines). It is called "Ez Zôr," as every one passing through it has to do with difficulties; and it is fatiguing, for the many water ravines and swampy places.

The boundary line went along this ravine, "Makarfet," further on to "Beth Arabah." The name "Arabah" is identical with the present word "Ghor" (a broad wâdy greatly depressed), and "Beth Arabah"[2] was the inhabited place therein. I think it is the present "Mekur es Sidr"—meaning excavations and caves in the slopes of the ravine—the boundary running in the bed of the valley; therefore the southern caves, or "Beth Araba," are belonging to Judah (Josh. xv, 61), and the northern to Benjamin (xviii, 22). It is to be understood that on the banks of the ravine may have stood also *built* houses, embraced with some fence.[3] The line went in the ravine up to the foot of the mountains, and there to the "stone of Bohan," a "white-striped rock," on one of the first heights—I think the one on which foot the Wâdy "Makarfet" comes out, and another smaller one enters into it. From here the line went into the valley of Achor (verse 7). "Valley Achor" was in the neighbourhood of Gilgal (Josh. vii, 24–26), and I am convinced it is the "Wâdy Umm el Bucimat," meaning the "mother of the door of death;" and the Rujm "es Shemâliyeh" there is the heap of stones the children of Israel put over Achen and his family. Rujm Shemaliyeh means the "northern heap" of stones, in opposition to another one in south, called the "Kebliyeh," or southern. "Achor" means "trouble," grief," and "sorrow," and the present name implies the same idea; but there are promises (Hos. ii, 15, and Isa. lxv, 10) of a better time. Some consider the Wâdy Kelt to be the "valley of Achor;" but this cannot be, for the Kelt is a narrow, deep gorge, with a river bordered with bushes and thickets, and certainly not convenient (nor advisable) for the executions of people—this wants a dry (broken) valley; and further, the Kelt is too near to the northern boundary of Benjamin and Ephraim according to Joshua xvi, 1, 2.

Verse 7 is in the Hebrew (and in all the translations to which I had access, which differ greatly) very difficult at first. But one has to keep in mind that here the line went through a complete wilderness, and so no names or places could be mentioned, till it came to cultivated land, full half-way up to Jerusalem, and there is "Debir" mentioned, a town,

[1] Hieronimus gives it three miles from Jericho, and two miles from the Jordan.

[2] Compare Joshua xviii, 18, where the German Bible gives "Gefilde."

[3] And so forming a town.

or village rather—as in the enumeration of towns Debir is not mentioned (the one spoken of in Joshua xv, 49, is near Hebron)! Between the "Valley of Achor" and "Debir" "Gilgal" is mentioned in Joshua xv, 7, which is given in the parallel passage more completely as "Geliloth" (Josh. xviii, 17), meaning the round conical white chalky hills, which are numerous in this wilderness, and distinct from those at Jericho or on the banks of the Jordan (Joshua xxii, 10, who therefore said: those which are at the "ascent to Adunim, which is on the south side of the river," thereby clearly describing the chalky hills, and above the high group of red looking hills, on which are the ruins of an ancient fort[1] and of a Khan called "Khan Hathrûrah;" and which place is generally taken as the Adunim by all writers. West of them, a more level tract of land, and already cultivable, is called "Thoghret ed Debr," which Rabbi Schwarz translates the "meeting-place of Debir," referring to one of the stations, where the Israelites went up to Jerusalem for the feasts. The name is taken from the neighbouring Debir.

Debir must therefore be sought in the neighbourhood of this place. Half-an-hour south of this plain, in the same valley (but lower down), where several valleys unite, we find on the map "Umm el Rujm," *i.e.*, the *mother of stone heaps*, and this place I consider to be the ancient Debir, and belonging to Judah, as the boundary coming up from the upper end of the valley Achor (which for a time has in its upper part a north direction, and the white chalky hills above its upper termination to "Adunim," nearly along the present road to the neighbourhood of Debir to the present "Thoghret ed Debr." Its name is derived from the neighbouring village from here (Debir or "Umm er Rujm"); the line went westwards, up the valley, and finally to the Water en Shemesh, and further on to En-Rogel (verse 7). En-Rogel is generally believed to be, and is without question, the present Bir Ayoob below Jerusalem. But where is En Shemesh? Robinson, and many others following him, think to find it in Ain Nond east, below "Azirieh," or Bethania. But the name does not agree, and so we must look for another one elsewhere. The name "Es-Shemesh" occurs in this district three times. The first is a cave, "Mogharet es Shems," north of the Wâdy Kelt, opposite the Khan Hathrûrah, and cannot be the place looked for; the other is a rock, "Arak es Shemes," south of the Jerusalem road, and from Thoghret ed Debr half-way up to Jerusalem: it is not the place looked for. The third is the site of an ancient village or town north of Jerusalem, east of the Nablus road, called now "Khurbet Soma," *i.e.*, the "Ruins of Sama." In this word we find the original root of the word "Es Shemes"—and many other reasons make me believe that this site is the ancient "En Shemes," although there is now no spring, or 'Ain, but only a very large cistern, which was formerly an open pool![2] We must remember that in this district there are to-day

En-Rog
Bir Ay

[1] Talat ed Dumm.

[2] It is to be remarked that the text does not say Ain Eshemes, but the "*waters* of Es Shemesh."

only a few springs. It is clear that many former springs have in course of centuries entirely dried up, or now only flow a short time, after heavy rains; of this sort I know a great many. So it may have happened with the "En Shemes." Further, the words "Ain" and "Beth" are so often mentioned in the Bible, and also amongst the Arabs of this day, that they appear often synonymous, so that one is sometimes used for the other. Joshua xv, 10; 1 Samuel, vi, 12–20, is "Beth Shemes," now called by the natives "En Shemes," although there is no spring. And so may "Khurbet Soma" in Joshua's time be called "En Shemes;" afterwards, in the time of the Kings, it was called Beth Samys, and so the Septuagint has it throughout.

In 2 Kings xiv, 11–13, and 2 Chron. xxv, 11, we read, that Amaziah, King of Judah, would not hear advice; so Jehoash, King of Israel, made war and came up, and both kings "looked one another in the face at Beth-Shemesh, which belongeth to Judah," and Amaziah was beaten, captured, and 400 cubits of the walls of Jerusalem (in the northern direction) was broken down by Jehoash. It is evident that *this* Beth-Shemesh cannot be that above-mentioned, situated in the plain; for the distance from Jerusalem is too great, and no reason can be found to transplant this skirmish there; but, which was quite natural, Jehoash went over the boundary, marching towards the capital, Jerusalem (this boundary being a few hours north of Jerusalem, at Bethel), and when Amaziah heard this he went also out against him, and they met one another on the high flat ground at Khurbet Soma, the ancient Beth-Shemesh, near Shafat. To such a conclusion there are good reasons. I draw, therefore, the boundary line from Debir (in the neighbourhood of Khan Hathrûrah), first westwards up the Wâdy Sidr, along the Jerusalem road, till, at the point where the latter crosses over a ridge to a more southern valley, the line remaining still in Wâdy Sidr, and going along the traces of an ancient Roman road, to the place Deir es Sidd, and then up the Wâdy Sulim, up to the Khurbet Sôm'a; the ancient En Shema, and from here, bending at a right angle, southwards along the Nablus road to Jerusalem, and through the Damascus gate down the Wâdy (Tyropœon) to En-Rogel or Bîr Eyûb. In doing so, Jerusalem becomes cut in two parts: the eastern part belonging to Judah, the western to Benjamin. That such a line is correct we see from the parallel passage, Josh. xviii, 16, 17, where it is clearly stated, that from En-Rogel (verse 16) it went northwards to "En-Shemesh," which, therefore, fully agree with the present Khurbet Sôm'a. That Jerusalem was divided to the two tribes we learn also clearly from the Scriptures, Josh. xv, 63; it is said: "The children of Judah could not drive out the Jebusites, but dwelt with them unto this day;" but in xviii, 28, we find Jerusalem enumerated among the cities of Benjamin, and said to be Jebus (compare also Judges xix, 10, and 1 Chron. xii, 4). So these passages seem one to contradict the other, when Jerusalem will be taken as a whole allotted only to one tribe, and one finds many and curious explanations of the commentators to reconcile these passages. All difficulty falls away when the boundary is drawn as I have done. That both tribes had part of

Jerusalem, the Talmud also states, and hence Rabbi Schwarz makes the Tyropœon the same thing as the Valley of the "Son of Hinnom," and the latter to the "valley of the giants," or Rephaim, but nothing of the following agrees with the state of things.[1] The Talmud says that the boundary line went even through the Temple, and over one corner of the altar of burnt-offering,[2] so that the Temple proper was situated in Benjamin, and quotes Gen. xlix, 27. But one would think the blessing to Judah, Gen. xlix, 8–12, would rather indicate the government and central point of the people, which was the Temple, to Judah. So in the chief point, that the boundary went through the town, they are right, but in the minute details they fall, according to my understanding, under the sentence (Mark vii, 8), "and many other such-like things ye do."

From "En-Rogel" (Bîr Eyûb) the boundary went (according to verse 8) up in the valley of Ben Hinnom, on the south side of the Jebusites, to the "top of the mountain lying to the west," at the point where the valley makes a sharp bend towards north—this mountain was situated on the north end of "Rephaim" over the "valley of the giants," and by this we see it is the present "Ras ed Tabus" (south-west of Jerusalem). From here the line went to the "waters of Nephtoah," generally, and with good reasons, considered to be the "Ain at Lifta." It may appear strange that in verse 8 and beginning of verse 9 the several points are one so near the other—as in the rest of the description generally, are of great distances. But this is quite natural, just as here was Jerusalem and the centre of the people, and two tribes having shares in its territory, the boundary had to be given very exactly and minutely. The more so as, at that time, the two inhabited parts were small places or towns, yet both belonging to the Jebusites! Further, it was necessary to state minutely, as the line made at En-Rogel a sharp angle, which otherwise would not have been properly understood. From the "waters of Nephtoah" the boundary went on to the cities of Mount Ephran (*i.e.*, Ephraim) to Baalah and Kirjath-Jearim" (verse 9). It is easy to be traced from Lifta down into the valley ("Wâdy Beit Hannina"), and westwards along it till "Beit Tulma," where the valley bends towards south, and as it is said "went to the cities of Mount Ephron"—it is clear that this valley formed the boundary between the mountains of Judah and the mountains of Ephraim. From "Beit Tulma" the line ascended the slope of the mountains, left "Khurbet Beit Mizza," the ancient "Mirza," to the right in north as belonging to Benjamin (Joshua xviii, 26); also the old Weli, or monument, "Abd el Aziz," a very ancient-looking place, with a monument as in other "Mukams," and the "Kubbet Rahil," near Bethlehem, and is overshaded by very old trees; close by it is a tank and some ruins of former buildings. The present name, "Abd el Aziz," is a modern and a Moslem one, but I was told the place is also sometimes called "Kubbet Rahil" (= Tomb or

[1] Talmud, Sebachim, liii, 2; Joma xii, 1.

[2] Even in this way the *eastern* part will belong to Judah, and so on, contrary to his own statement.

Monument of Rachel), and I think it is the one situated at the boundaries of Benjamin (1 Sam. x, 2), and distinct from that near Bethlehem where Rachel died—and is in the tribe of Judah; for the Benjamites made also a monument for their mother in their own ground, as I believe, and this would be it, as I have pointed out in an article on "Saul's Journey" (1 Sam. ix, &c.), which appeared in a German paper.[1] North of this place are the ruins of "Rume," and south some others, not entered in the large map, and Kustul; and westwards many other cities of Mount Ephraim. The line went from the top of this ridge downwards to "Ikbala," near south of the main Jerusalem—Jaffa road—it is situated at a spring in the valley, and forms a very idyllic corner of the earth. I consider it as a former place of "Baal," and from here the line went up to the town "Kirjath-Jearim." The text connects them both, which I explain so: that "Ikbala" has been the place for worship and for national feasts, the town itself was more west of another spring situated higher up, viz., the present "Abu Ghoosh;" it was at the time surrounded by forests or thickets, therefore its name "Jearim," but since this, thickets have disappeared, and reduced more west, and so it bears now the name "Anab," "Kuryet el Anab," = "town of the grapes," as there are now very fine vineyards."

Robinson and others, not knowing of a second "Kubbet Rahil," tried to draw the boundary line from the top of the mountains, west before the valley of Hinnom—in another direction as I have now described, and having gone over to Lifta—they trace a more southern route, in order to come nearer to Rachel's tomb, near Bethlehem. Robinson mentions, therefore Ain Yâlo (below Malnah) and also Ain Korius to be the waters of Nephtoa. But against such a supposition must be placed their *names*, and those are at too great a distance from Rachel's tomb, the first three-quarters of an hour, the latter fully one-and-half hours, a distance even greater than Rachel's tomb is from Jerusalem! So this will not do, and therefore Captain Conder goes on to say that the waters of Nephtoah[2] are the springs in the neighbourhood of Solomon's Pools, beyond (south of) Bethlehem. First the meaning of the word Nephtoah, implying a group of springs, and those can only be found at Solomon's Pools; and secondly, the boundary would then run over close at Rachel's tomb; and thirdly, quotes the Talmud giving Nephtoah as Etam. Agreeable as all this looks, it is open to great objections.[3] The name is missing, but this may be of little consequence; the great difficulty is, how to draw the line to Kirjath-Jearim? which then cannot be taken as Abu Ghoosh; and Conder therefore substitutes a Khurbet Erma, about two hours in south-west of Abu Ghoosh (or the above-fixed Kirjath-Jearim). By such a line, the tribe of Judah loses a great tract of land in favour of Benjamin, and further, the greater part of the cities in the Septuagint described to Judah,[4] viz.,

[1] "Zeitschrift des Deutchen," Pal. Vereins, 1881, page 247.

[2] *Quarterly Statement*, 1879, pp. 95–99.

[3] Joshua xv, 60.

[4] Several of these are made by W. F. Birch (*Quarterly Statement*, 1882, p. 61), which I will not repeat.

Sores (= Sarîs), Canen ('Ain Karim), Galem (B. Jala), Bether (= Bittir), Monoch (= Malhah), will fall to Benjamin! And then he finds no Mount of Ephron, which certainly means simply Ephraim, as I took it in the above. Further, if even the Khurbet Erma would be taken as Kirjath-Jearim, the line further on of the boundary will not do, although he traces it, but without any probability; its line goes backwards, crossing twice one and the same valley; whereas, when Abu Ghoosh is Kirjath-Jearim all comes right. To point out this it is necessary for me to explain this, although the last of the tribe of Benjamin ended at Kirjath-Jearim, and so, strictly speaking, the further line would not fall under the headings of this my paper.

From Kirjath-Jearim the line went westwards to the Mount of Seir; this is apparently Saris,[1] and passed along unto the side of Mount Tevrin, which is Chepalon. The long ridge from Abu Ghoosh to Eshnah is, according my conviction, the "Mount of Jearim," the mount of thickets, as it is still to-day to a great extent. The line from Abu Ghoosh westwards went therefore (about) along the present Jaffa road, and passing north of the village Sarîs—not further following the road and telegraph line down the valley, but crossing the ridge in west of Sarîs, in a southern direction, and going down on the side of Mount Jeram into the Wâdy el Hamar to Chessalon, the present Kessla, which is on its south side. So to the north of it the valley and boundary run down, remaining in it till Beth-Shemesh, and going further on to Timnah (verse 10), where all is clear and correct.

There is no crossing of any valley; but the boundary is quite a natural one, and all expressions in the text come right, so I should think this is correct, and hence Abu Ghoosh is Kirjath-Jearim, and Lifta the Nethtoa, and Khurbet Sôm'a the En Shemes in the mountains, Umm Rujm Debir, and the chalky hills Geliloth, and so on.

Jerusalem, February, 1884. C. Schick.

ARCHÆOLOGICAL DISCOVERIES IN THE HOLY LAND AND SYRIA IN 1883.

(*Reprinted from the Times*).

I. Discovery on Mount Gerizim of a Marble Pedestal, ornamented with Bas-Reliefs and Inscriptions.

About the middle of last year an important archæological discovery was made in a celebrated locality of Palestine which had not previously supplied us with anything particularly interesting in the way of antiquities. Some works undertaken by the Ottoman authorities for the construction of a building at Nablous, the ancient Shechem, at

[1] The line passed not to the town but to the Mount of Saris, which is exactly the case when following the present road, on the ridge of the hills.

the foot of Mount Gerizim, brought to light a considerable number of fragments of sculptured marble. Among these was found a large pedestal of marble, about a mètre in height, triangular, or rather hexagonal, in shape, with three broad and three narrow sides, covered with bassi relievi and Greek inscriptions. M. Paulus, a talented sculptor resident in the Holy City, and the Governor of Palestine, His Excellency Raouf Pasha, whose enlightened zeal cannot be too highly praised, and who has taken steps to secure the preservation of this beautiful monument, kindly sent me as soon as possible different photographs of it. These I immediately communicated to the Academy of Inscriptions and Belles-Lettres with some explanations, which up to the present ime have remained unpublished, and which the public may perhaps be glad to receive. The real use to which this pedestal was meant to be applied is not certain. It recalls to mind the triangular altar-shaped pedestals of certain ancient candelabra, which are in like manner ornamented with sculptures. On one of the broad sides, quite at the top of the cornice, a Greek inscription of five lines is engraved. I have been able to decipher a portion of it, in spite of the smallness of the photographic reproduction and the shadow cast by the cornice, which hides many of the characters. It is a metrical inscription. On the narrow side, to the right of the preceding side, is engraved another Greek inscription of nine lines, which is absolutely undecipherable in its present state, the characters being not only on a microscopical scale, but, in addition, distorted by the perspective.

Each of the three large sides is divided into two compartments, in which are sculptured in bas-relief different scenes taken from the Hellenic mythology, viz., six subjects in all. Several of these scenes are accompanied by short Greek epigraphs, engraved in the field, giving the names of the principal personages who are engaged in the scene represented. The three lower scenes, which are the most distinct and the easiest to identify, belong to the cycle of the legend of Theseus. They follow one another in a relatively logical order. In the first we see the young hero raising the stone under which are hidden the sword and the shoes of his father Aigeus; three women, including probably his mother, are taking part in the scene. In the second, Theseus is in combat with the Minotaur, who may be recognised by his bull's head; on one side are the young Athenians, whom Theseus has come to set free, and a kind of cavern, indicating the monster's den; in the field I noticed the traces of an inscription, giving the name of Meinotauros, in the accusative. In the third, Theseus has triumphed over the robber Corynetes, who is stretched at full length at his feet; the conqueror, erect, appears to be leaning on his own club and holding the iron club of the robber of Epidaurus; three other persons, so much mutilated that they cannot be with certainty identified, are standing by the side of the robber's corpse. I pass now to a description of the upper compartments. The first of them shows us Artemis, Apollo, and Latona, with their names inscribed above their heads; on the right is the serpent Python, his

head pierced with an arrow discharged by the divine archer. In the second scene a personage, probably Demeter, passes to the left, mounted in the celebrated car drawn by serpents. Another woman, lying in the shadow of a tree that crowns a height, and leaning on her right elbow, holds a palm or a cornucopia and has a garland of flowers on her breast; it is perhaps an indication of the country personified, or the representation of a telluric divinity. In the third upper scene, which appears to have greatly suffered, and which is imperfectly given in the photograph, a manly personage is seen, probably Hercules, half-kneeling down and contending with two serpents. To the right and left two women are hurriedly fleeing from the place of combat.

Such is, in a summary form, the description of this very curious monument, which derives its chief interest from the place in which it was found. It belongs to the Græco-Roman epoch, and must have come from the Pagan temple which was erected on Mount Gerizim, and which is so frequently reproduced on the Greek Imperial coins of Neapolis. By what association of ideas did these Greek legends come to be localised at Neapolis? It appears that the ancients had established between the ancient Shechem (transformed at the Græco-Roman period) and Athens one of those assimilations more or less arbitrary which were customary with them. I will confine myself—without insisting on my contention—to pointing out three concordant facts in support of this suggestion. On the coins of Neapolis the Mount Gerizim, the Temple which surmounted it, and the grand monumental staircase which are represented, recall to mind, in a singular manner, the monetary representations of the Acropolis; the greater part of the scenes figured on our monument are borrowed from the Attic cycle (Theseus and Demeter); finally, Attica is certainly mentioned in the inscription. In order to pronounce an opinion definitively on this point, and on other secondary points, it will be necessary to wait for better reproductions of the monument. Above all, the inscriptions must enlighten us, by informing us in what conditions it was dedicated. I have asked for "squeezes," which I trust will enable me to settle this question. In the meanwhile, this monument remains none the less one of the most interesting which has been hitherto found in Palestine. It is much to be regretted that the occasional excavations which led to its discovery have not been resumed and continued in a methodical manner, as they might produce results of the greatest importance.

II. Discovery of Antiquities at Emmaüs Nicopolis.

The discovery of the bilingual inscriptions of Gezer has permitted, by consequence, the determination with a mathematical certainty, so to speak, of the position of the ancient Emmaüs Nicopolis at the Arab village of Âmwâs, situated on the road from Jaffa to Jerusalem, between Ramlé and the point where the road penetrates into the mountain mass of Judah. Âmwâs is one of the points of Palestine where excavations might be made with fruitful results from an archæological point of view. Already at the

time of my last mission in 1881 I collected there some interesting monuments, among others some Roman inscriptions and a marble capital bearing a curious inscription, and coming probably from the very ancient basilica which was erected at Emmaüs. This inscription, incontestably Christian, was in effect bilingual, Greek and Hebrew—"One only God! May His name be blessed in eternity!" The Hebrew part, strange to relate, was in archaic characters, analogous to those of the Jewish shekels. If the stela of Mesa may be considered as the Alpha of Hebrew epigraphy, the capital of Âmwās may with good reason pass for its Omega.

Since my departure some excavations undertaken for pious purposes by a French lady, Mademoiselle de Saint-Cricq, have been carried on under the direction of Captain Guillemot in the ruins of the basilica of Âmwās, already excavated by me in 1874. They have led to new finds which M. Guillemot has kindly communicated to me,—a cruciform baptistery; fragments of a vase in terra-cotta with a handle in the form of a cross, and the invocation, "Lord! remember (thy servant!);" a fragment of the lid of an ornamented sarcophagus; an ancient quarryman's bore; fragments of funereal inscriptions in Greek, &c. But that which specially deserves to be noticed is a discovery which has realised one of my predictions. I said in one of my first reports on my mission of 1881 (p. 33), in discussing the difficult problem of the dedication of the basilica of Âmwās:—

"Then is then, in my opinion, among other chances, that of finding some pavement of historical mosaics, perhaps accompanied by inscriptions which will inform us more fully as to the past history and the origin of the church than all the suppositions to which we are at present confined."

The excavations of M. Guillemot have, in fact, brought to light a mosaic pavement close by one of the apses of the ruined church. This pavement contains an inscription, unfortunately much mutilated, but the general sense of which can be gathered. "The mosaic work of the church of . . . under the episcopate of . . . the day, the month, the year." One may compare, among others, the tenour of the dedications of the mosaics at Tyre and Neby Younès. It is much to be regretted, however, that it is the very parts of the dedication which contain the key to this historical enigma that have disappeared.

Another interesting discovery made at Âmwās is that of a Jewish sepulchre, inviolate, cut in the rock, according to the habitual plan; a square chamber with nine *loculi* or *koukim* disposed three on three of the walls; in the centre were two ossuaries or *osteothèques* in the form of *caissettes* in limestone, surrounded by large vases in terra-cotta and phials commonly called lachrymatories.

III. Votive Paten Discovered on the Mount of Olives.

On the eastern slope of the Mount of Olives there has been found an interesting specimen of Christian archæology in Palestine. The Archimandrite of the Russian mission at Jerusalem, into the possession of which

it has entered, has kindly sent me a "squeeze" and a copy, which have enabled me to interpret it.

It is a disc of greenish bronze of 13 centimètres in diameter, mounted on a kind of little foot. In the middle a large cross is cut with equal branches, on which are engraved five characters, thus arranged :—

Φ
Z Ω H
C

which I read Φῶς, Ζωή, "life, light," those two sacred words denoting the two essential qualities of Christ. All round there is engraved a long Greek inscription, a little damaged in certain places, which I propose to translate thus :—"Mary (or Martha ?,) receive the offering of those whose names the Lord knows."

I believe that this little object represents to us a paten—the *diskos* of the Greek Church, on which were placed the particles of the eucharistic bread, the "living coal" (compare "life, light") to which the Oriental liturgies liken this symbol of the body of Jesus.

IV. Discoveries of Inscriptions in the Lebanon.

M. J. Löytved, Danish Vice-Consul at Beyrouth, who engages with zeal and success in researches on Syrian antiquities, has communicated to me reproductions of a series of inedited monuments which deserve a special mention.

These are, first of all, three Roman inscriptions coming from the ruins of Deir el-Kalá, at Beit Meri, in the Lebanon. This locality has already attracted the attention of archæologists by the existence of an ancient temple dedicated to a certain Phœnician god—Baal-marcod, who appears, as the etymology of his name indicates (*rakad*, to dance), and by the very tenour of certain inscriptions already known, to have presided over dances. The first of these new texts is a votive inscription made to Juno Oricina by Caius Julius Maximus :—

IVNONI ORI
CINAE C IV
LIVS MAXI
MVS FECIT
V.L.(M).S.

The second is the dedication of an altar offered to the well-known Roman goddess Mater Matuta, on the reply of an oracle of Juno, by a woman, Flavia, daughter of Titus, Nicholais Saddane :—

MATRI.MATVTAE
FLAVIA.T.FIL.NICOLAE
SADDANE.(ANTISTI)
VETERIS.EXPRESPONSO
DEAE.IVNONIS.ARAM
FECIT.DEDICAVITQVE

The interpretation of the third line presents certain difficulties, but this s not the place to stay and discuss them. I would remark, however, that if *Saddane* is really, as it appears to be, the proper name of a woman, it approaches very near to the name of the Queen Saddan engraved in Syriac and in Hebrew on the sarcophagus coming from the tombs of the Kings of Jerusalem. I have already had occasion to say that I considered *Saddan* as the Semitic and national name of Helen, Queen of Adiabene. It is not impossible that the Flavia, daughter of Titus, of Beit Meri, was attached by the ties of parentage or affranchisement to the royal family of Adiabene, several members of which, after the taking of Jerusalem by Titus, may have become adherents of the conqueror and entered into the *clientèle* of the Flavians on taking their names, following the ancient usage. This is what the Jewish historian Josephus himself did when he adopted the surname of Flavius.

The third inscription of Beit Meri is a dedication engraved on a stone over a window :—

EX. VOTO. M. TITTI. RE...

M. Löytved has sent me besides the drawing of a large Roman inscription engraved on the rock between the 16th and 17th kilomètres on the road from Beyrouth to Damascus. Unfortunately, it is too damaged to be deciphered with certainty. It will be necessary that it should be examined on the spot by a skilled epigraphist. I believe I recognise here the mention of the *Colonia Damascena*. I point it out to the attention of learned tourists who may have the opportunity of travelling in those parts.

V. New Inscriptions in Hauran.

M. Löytved sent me also the copy of four Greek inscriptions collected by him in Hauran. They appear to me to be unpublished, and they ought to be added to those, already numerous, which M. Waddington, our present Ambassador in London, found in the ancient Auranitis. The first comes from Numr, a locality situated at an hour's distance to the south-east of Harra, and not marked on the maps. It is engraved on a small altar, on which has been traced, at a comparatively recent period, a large cross. It is the dedication of the monument made by a certain Zenon, son of Kadmos. The second name is interesting. I showed a long time ago that that of Zenon, frequently borne by Phœnicians of the Greek epoch, was the Hellenic equivalent of a Semitic name, composed with the name of Baal. The second inscription comes from Numr. It is only a fragment containing thirteen lines. It appears to me to have reference to the erection of a boundary-stone marking the limit of two ancient villages, whose names are given, but are badly preserved (one of them appears to be Namara). The other two inscriptions come from Djasim, a small locality, also situated in Hauran. They are both Christian, and one appears to contain a passage taken from the Greek version of the Psalms.

A little later on, M. J. Löytved sent me the copy of twenty-five new Greek inscriptions, collected by him during his tour in Hauran, in company with M. P. Schroeder. They come from various localities of Auranitis, from Trachonitis, from Batanæa, and from the ancient Nabathæan kingdom. Amongst them I point out an inscription dated the year 5 of Hadrian (at Ahiré in Trachonitis), an inscription of a soldier having belonged to the Third Legion (at Soneida of Batanæa), an inscription dedicated to Marcus Aurelius Antoninus, mentioning the theatre and the city of Bostra, a stela dated the year 95 from the foundation of the city (at Irbid).

VI. Arabic Inscription anterior to Mohammed.

Knowing that M. Löytved was about to undertake an excursion in those parts of Syria, I urgently requested him to have the goodness to take for me the "squeeze" of an extremely important text, which, up to the present time, has only been known to us by copies, due to MM. Wetzstein and Waddington—copies still leaving room for doubts, in spite of the care taken by their authors. It is a bilingual Greek and Arabic inscription engraved on the lintel of an old chapel or *martyrion* at Harran, in the Ledja. That which gives special interest to this inscription of three lines, mentioning the construction of the *martyrion* in honour of St. John, by a tribal chief or phylarch, "Asarahil, son of Talemou," is that it is dated with an entire certitude after the local era of Bostra, the year 463 corresponding to the year 568 A.D. Then it results from this that the Arabic portion, written in pure Neskhi, is anterior by fifty years to the Hegira, and consequently engraved before the birth of Mohammed. During the last ten years I have pointed out the *desideratum* to all the persons of my acquaintance who had the opportunity to explore this region, but without success. M. Löytved has had the kindness to do what I could not obtain from his predecessors, and he has just sent me a very good impression of this precious inscription. Thanks to this document, I hope soon to be in a position to cast a new light on the most controverted parts of the inscription of Harran, and I am glad to take this opportunity of thanking M. Löytved for the great service which he has rendered to science in this matter.

VII. Spurious Phœnician Inscription on a Bronze Figure in the British Museum.

I have just noticed in the show cases of the British Museum a curious little monument which was acquired this year, and which, it seems, ought to be classed in the catalogue, already so rich, of the false or falsified antiquities of Syria. It is a little bronze representing a quadruped—a deer apparently, or, better, a hind—of about $2\frac{3}{4}$ inches in length. It is pierced right through, from the back to the belly, by a hole, which must have served to fix it on another object. The feet are broken. This little figure, brought it is said from Tartus, is certainly genuine. But that which is not genuine is a Phœnician inscription of five characters which it bears engraved on the left side, and which I read *Gadyaton* (the proper

name of a man, which signifies literally *Gad has given*). It has a good Semitic physiognomy and sureties in the collection of Phœnician proper names. Nevertheless, it must have been engraved afterwards by a modern forger, upon the little figure, in order to increase its market value. The forger must have been inspired with the legends on certain Phœnician seals. The letters have a stiffness, which betrays a modern hand. The graver has, in places, exfoliated the pellicle of the antique oxide, and, in spite of the precautions taken to cover over the engraved lines with an artificial patine, one can perceive here and there brilliant points of the metal.

VIII. Discovery of a Fragment of an Imperial Inscription at Jerusalem.

In the course of the summer of 1883 excavations were undertaken, under the direction of the Archimandrite of the Russian Mission at Jerusalem, in the vast tract of ground belonging to the Russian Government and situated east of the Church of the Holy Sepulchre. This point is one of the most interesting to explore for the topography of the Holy City, because there is a chance of finding traces there of the second enclosure wall, a problem with which the authenticity of the Holy Sepulchre is intimately connected. I myself made there, during my mission of 1873–4, some excavations which have led to certain results.

The Archimandrite, in a letter dated the 27th of December, 1883, informs me that the new works which have just been undertaken have brought to light the threshold of a large antique door and a fragment of a Roman inscription. It is a piece of flagstone 0·50 mètre in length by 0·41 in width, with these characters :—

IMP . . . .
PART . . .

The word IMP[ERATOR] evidently indicates that we have to do with an Imperial inscription. The surname of PART[HICUS] can only be applied to Trajanus, who first assumed that title after his expedition against the Parthians, or to one of the Antonini who bore the name after him.

New Forgeries at Jerusalem.

For some little time past the forgers at Jerusalem appear to have applied themselves to the cultivation of another branch of industry. I say "for some little time past," because in the year 1880 there was no question of it at Jerusalem, and if the industry had existed, some product of it would certainly have fallen into my hands during my stay in Palestine at that period. I refer to the manufacture of terra-cotta lamps.

The forgers have had the ingenious idea of imitating those little antique lamps, belonging for the most part to the Christian epoch, which have been found by hundreds in Jerusalem and its neighbourhood.

Several of them—I am speaking of the authentic ones—bear very curious Christian symbols, and some of them even Greek inscriptions, the first specimen of which I made known in 1868. They are pious eulogies, such as ΦΩC $\overline{\text{XY}}$ ΦΕΝΙ ΠΑCΙΝ—"the light of Christ shines for all;" ΛΥΧΝΑΡΙΑ ΚΑΛΑ—"beautiful lamps," &c. This latter epigraph has the advantage of giving us the very name of these lamps, of these *lychnaria*, which probably served as well for profane as for sacred purposes.

Nothing is more easy than to counterfeit these little *lychnaria* which were cast in rude moulds. The two portions—the upper and the lower—were moulded separately, and they were then put together before the baking of the clay. I discovered and brought away with me several of these antique moulds used in Palestine.

I do not know whether the forgers have made use of upper castings (*surmoulages*), or whether they have reproduced in their entirety certain models which they can hardly have failed to procure. At all events, they have put in circulation a considerable number of false *lychnaria* and have multiplied them in abundance, thanks to the expeditious process of moulding imitated from the ancients. In order to make the fraud more profitable, they have ornamented their wares with fancy inscriptions. Having once set themselves to this task, they do not do things by halves. Greek Christian inscriptions, like those which are already known, were but small beer for them. Hebrew inscriptions, if you please!

Here, for example, is a little clay *lychnarion* which is worth its weight in gold. It is circulated at Jerusalem in several copies, and I recommend it to tourists. On the upper part is represented a palm tree, separating into two sections a group of four archaic Hebrew letters, which are read without difficulty—"Simeon." The counterfeiter has simply copied the complete type of the reverse of one of the Jewish coins struck during the last revolt. It is the coin which is ordinarily attributed by numismatists, though the correctness of the statement is open to discussion, to the famous Barcochebas. A lamp with the name of the Jewish hero! That is indeed a "wonderful lamp." Unfortunately, here Aladdin probably calls himself Selim el-Kari, and it is with the story of the Forty Thieves that we have to do.

I am informed from Jerusalem that there was found in a cavern near Hebron, during the summer of 1883, a quantity of terra-cotta lamps of the same type, description, and size, bearing on the upper part a similar inscription in illegible characters of Semitic appearance. Although this "find" appears to me to be very suspicious, I suspend my judgment regarding it until I am more fully informed.

CH. CLERMONT-GANNEAU.

THE CITY AND TOMB OF DAVID ON ACRA, COMMONLY CALLED OPHEL.

"VERIFY your references," said a great writer, especially, I would add, if you touch the Jerusalem controversy. Through neglect of this safe rule, in reference to the City of David, Captain Conder has fallen into a few errors, which in self-defence I must unmask.

(1) He claims the authority of Mr. Fergusson (*Quarterly Statement*, 1883, p. 194), in favour of Acra being west of the Temple, putting him into the same scale with Sir C. Warren. It is startling to find Mr. Fergusson (*cedere nescius*) thus in 1883 turned into a make-weight (against me) in favour of the *western* site, when in 1863 he wrote (Biblical Dictionary, *Jerusalem*) "in favour of the assumption that the hill Acra and the citadel Acra were situated on the *northern* side of the Temple." If these words can be forced into helping Captain Conder's theory, then one is reminded of Canon Williams' exclamation: "Why, at this rate, any passage in any book will be sufficient in itself to settle the whole controversy!"

(2) Captain Conder rightly adheres to the opinion that Uzziah was buried on Ophel, but 2 Kings xv, 7 (as already pointed out), distinctly states of Azariah (*i.e.*, Uzziah) that "they buried him with his fathers, in the City of David." Therefore the City of David, in whole or part, was on Ophel. What could be clearer? Captain Conder, however, does not admit this conclusion. He thinks (*Quarterly Statement*, 1884, p. 26), "that every passage in the Bible is satisfied, without its being necessary to place the City of David (on Ophel), in a practically impossible position." Now he is an unsparing opponent of "final denial of some or other statements of the ancient accounts," when Josephus is treated as untrustworthy. It is the more surprising, then, that overlooking, as it were, 2 Kings xv, a still more ancient account, he should put himself in one scale with the oldest record in the other, and then describe Ophel as an "impossible position." Others will rather conclude that his theory is impossible.

(3) "*Sepulchres within Jerusalem transferred outside the walls.*" (*Quarterly Statement*, 1877, p. 134; also "Handbook," p. 341.) The idea of a procession of Jews bearing in solemn pomp a rock-cut sepulchre out of the Holy City suggested difficulties. Accordingly a friend or two verified for me Captain Conder's reference to the Tosiphta (Baba Bathra, chapter I), on which he builds his theory that the Tomb of David is probably to be identified with the Tomb of Nicodemus (so called), since the latter is "the only undoubted Jewish tomb in Jerusalem."

It is quite time to verify this reference when Captain Conder can state that his theory "has been favourably received by many persons well acquainted with the history of Jerusalem," a success which I have to own has not yet crowned any theory of mine. I reflect, however, that commonly the worse the error, the more it is believed.

Now as Captain Conder refers us to the Tosiphta, I presume he himself

is ready to stand by what it really says. Professor Theodores kindly gives me the following *literal translation of the whole passage*, which I beg to present as our contribution to the "Pilgrims' Text Society":—

"All graves are cleared except the grave of the king, and the grave of the prophet. Rabbi Akiba says: Even the grave of the king, and the grave of the prophet are cleared. Then people said to him: Were not the grave of the house of David, and the grave of Huldah the prophetess in Jerusalem, and never did a human being touch them. He said unto them: Hence it is shown that there was a passage for them by which the impurity was carried off to the brook Kidron."

Here first of all, as I half suspected (1883, 151) the Tosiphta says not a word about transferring (*i.e.*, transporting) sepulchres, but merely about bringing bones, &c., out of graves, as foretold in Jeremiah viii, 1.

The word פנה which Lightfoot had rendered by *removere*, is used in Genesis xxiv, 31, where surely Laban does not transfer the house to oblige Eliezer, but only prepares or clears it out; and again in Leviticus xiv, 36, where the plague-stricken house would hardly be transported to the priest, but rather emptied before he came into it.

Thus the rock-cut tombs which the Tosiphta implies had existed within Jerusalem are no doubt still in existence. Indeed, part of Ophel is, I believe, simply honeycombed with them. Therefore, if only one old tomb within Jerusalem is known at present, it does not follow that it is David's tomb, any more than a fresh tomb discovered near Jerusalem on its northern side is necessarily the tomb of Joseph of Arimathæa.

Further, Captain Conder finds in the tomb of Nicodemus ("Handbook," p. 342) a peculiarity answering, he thinks, to the description which Josephus gives of David's tomb. I do not myself detect the points of agreement; this, however, is of no moment, inasmuch as, if the tomb adopted by Mr. Conder be really David's, the Tosiphta supplies the missing link with a vengeance, in *a peculiarity three-quarters of a mile long*, for a passage from the tomb of Nicodemus to the Kidron could hardly be shorter.

Let us hope the Turks will permit some one to search for this passage, although I do not think it will ever be found. Yet what a triumph for Captain Conder if it could be traced to Tophet!

If he now rejects the Tosiphta, his theory at once falls to the ground, having no foundation left. As to the trustworthiness of the Tosiphta I need not give an opinion, as I rely for the true site of the City of David not on R. Akiba, but on Nehemiah. I will only point out that a position on the eastern hill is in the closest harmony with the tradition current among the Jews in the second century, while Dio Cassius speaks of the sepulchre of Solomon as collapsing in the reign of Adrian. Thrupp notes that the Paschal Chronicle relates that the sepulchres of David were entered from Gibeon twenty furlongs from the city. Can Gibeon be a corruption of Gihon?

After this successful sally on unverified references I invite the critics forthwith to make fresh approaches against Zion, the city of the *Gibborim* (Prov. xxi, 22) before the garrison completely demolishes the besiegers

lines, beginning with Colonel Warren's "Parallel" on his invisible Zion ("The Temple or the Tomb," p. 22).

If, however, my opponents, especially the R.E's., will accept the inevitable and join me, so much the better, as their professional skill would be most valuable in searching for the entrance to the Tomb of David on Ophel (so called).

Is it not to such work that the Committee are beckoned in the oracular couplet of an anonymous pilgrim?

> "Est operæ pretium tumuli lustrare cavernas;
> Regia monstrabit putre sepulcra lutum."
> *Zion Sought and Found*, vol. i, p. 7.

This has been freely rendered—

> 'Tis worth your while 'mid Ophel's caves to pry;
> 'Here David sleeps,' his mouldering clay will cry.

NOTE ON JOSEPHUS AND THE LXX.

Josephus may have derived from the LXX his mistaken notion that Zion and the City of David, which are used as equivalent terms in the historical passages of the Bible, only meant just the same thing as Jerusalem.

This seems probable from the following :—

(1) In 1 Kings viii, 1, the LXX substitute *Zion* for *Jerusalem.*

(2) In 2 Chron. xxviii, 27, "In the city in Jerusalem" (Hebrew), which means "the City of David at Jerusalem," becomes in the LXX ἐν πόλει Δανίδ.

(3) 2 Chron. xxv, 28, "In the city in Judah" (Hebrew) becomes in the LXX ἐν πόλει Δανίδ. Possibly this was the true reading.

(4) In 1 Kings ix, 15, a confused reading may possibly give τὸν φραγμὸν τῆς πόλεως Δανίδ as equivalent to the wall of Jerusalem.

Thus in saying that David called Jerusalem the City of David Josephus is totally wrong; but in saying that king after king was buried in Jerusalem, he is merely sacrificing the precision of the original Hebrew, which names the exact part of Jerusalem in which the royal sepulchres were situated, *i.e.*, in the City of David, or Zion (*Quarterly Statement*, 1883, p. 154).

W. F. B.

THE PALESTINE EXPLORATION FUND

NOTES AND NEWS.

It has been found more convenient to publish Professor Hull's popular account of his Expedition in a separate volume than in the *Quarterly Statement*, as was at first intended. This volume is now advanced, and will be issued as soon as possible. It is illustrated by many drawings and sketches, and will be the first complete account ever published of the great valley known as the Wâdy Arabah. Professor Hull's Geological Memoirs will follow later on.

We are able to give in the present number Major Kitchener's paper on the geographical side of the Expedition. This is accompanied by a section of the Wâdy Arabah drawn by Mr. Armstrong. The paper has not had the advantage of Major Kitchener's corrections, but is supplemented for purposes of clearer understanding in parts by extracts taken from Professor Palmer's "Desert of the Exodus." Major Kitchener is now, as is known to everybody, at Dongola.

The new maps showing both the east and the west side of the Jordan are nearly drawn and completed for the engraver, but it is as yet impossible to state exactly when they will be ready. Sir Charles Wilson, who was to have superintended their production, is now in Egypt, and it is impossible to say when he will return.

With regard to present and future survey and exploration work in Palestine, the Committee are engaged in considering certain proposals of which it would be premature to speak here. But as regards work at home that requires funds, it must be remembered that we have in hand, as yet unpublished, the following works:—

(1) Captain Conder's Memoirs of the Eastern Palestine Survey, so far as it has been completed. These are much more voluminous than the Memoirs written by him for the other side, and are accompanied by many hundreds of drawings and plans. The cost of producing them will be not less than £1,500.

(2) The drawings executed for M. Clermont-Ganneau by M. Lecomte ten years ago. These are chiefly architectural, and are of the greatest beauty and value. It is estimated that they could not be produced at a cost of less than £1,200.

(3) Professor Hull's Geological Memoirs, which are not yet completed.

We have, therefore, plenty of work before us, even supposing that we do not get the Firmân required for the continuance of the survey of Eastern Palestine. Perhaps it may be found desirable to publish the first two of these works by special subscription.

The last two volumes and the Jerusalem Portfolio of the "Survey of Western Palestine" are now in the hands of the subscribers. *The Committee will be very much obliged by the payment of any subscriptions due.* It must be understood that none of the volumes will be reprinted except the "Flora and Fauna," and the "Jerusalem" volumes, the type of which is kept standing.

As for the copies which remain, it is much to be desired that they should be taken by public libraries, and the Committee will be very glad if their subscribers will cause the work, of which only a few copies remain, to be taken by any library as yet without it.

Dr. Wright's much expected book on "The Empire of the Hittites" is now ready.

In 1872, at the suggestion of Mr. Drake, Dr. Wright, then living in Damascus, secured for this Society plaster casts of the Hamath inscriptions. He accompanied the casts by a descriptive memorandum, and also wrote an article in which he was the first to argue that the inscriptions were Hittite remains. The memorandum was published in our *Quarterly Statement*, and the article in the *British Quarterly Review*.

The theory of the Hittite origin of the Hamath and other similar hieroglyphics thus first put forward by Dr. Wright has now been very generally accepted, and the aim of his work is to restore the Hittite Empire to its true position in secular history, and thus to confirm the scattered references to the Hittites in the Bible.

In support of this theory, Dr. Wright has brought forward a large amount of evidence in outline, and he has also placed in evidence the conclusions of many eminent scholars, who in following out different lines of investigation have found themselves confronted by the great Hittite Empire. The whole case is here presented in an intelligible form to the ordinary reader, together with all the material necessary for the prosecution of the subject.

A complete set of the inscriptions, many of them revised in the light of wider experience by Professor Sayce and Mr. Rylands, has been reproduced as perfect as they are ever likely to be. A map is also given on which places associated with the Hittites are marked, and also the sites where the inscriptions have been found.

An important item in the book is an article on the decipherment of the inscriptions written by Professor Sayce. It is the greatest advance yet made inthe interpretation of this ancient script, and may yet stand as an important landmark in the history of decipherment.

The book is beautifully got up, and will be welcomed by all who feel an interest in the subject.

In the January number of the *Quarterly Statement* we hope to publish a paper by Sir Charles Warren, giving an account of the Arabs of the Desert, met with by himself in the course of his search after Professor Palmer's

murderers. An important communication may be expected from Mr. Laurence Oliphant. We are also offered during the course of the year papers by Captain Conder, Mr. Boscawen, and others.

The Palestine Pilgrims' Text Society are now issuing their first "Pilgrim." It is the Journey of Antoninus Martyr, with an introduction and notes by Sir Charles Wilson. It has been arranged to have a map showing the route taken by each Pilgrim. The next tractate will be the Journey of Sancta Paula, who will be shortly followed by the Bordeaux Pilgrim, and next, by a translation of the Norman-French Description of the City of Jerusalem.

The income of the Society, from June 26th to September 26th, 1884, inclusive, was £743 8*s.* 8*d.* On October 6th the balance in the Banks was £260 18*s.* 6*d.*

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

The following gentlemen have joined the General Committee of the Society:—

Lord Rollo.
Sir Richard Temple.
Sir William Muir.
Professor Hudleston.
Professor Hull.
Mr. George Burns.
Mr. John Robinson, of Westwood Hall, Leeds.
Mr. A. H. Heywood.
Rev. Professor Milligan, D.D.
Mr. H. S. Perry.
Rev. W. F. Creeny.
Rev. H. G. Tomkins.
Rev. Professor Hort, D.D.
Rev. F. E. Wigram.

MAJOR KITCHENER'S REPORT.

On the 10th of November, 1883, the party left Suez for the camp at 'Ayûn Mûsa. I was able to compare chronometers at the Eastern Telegraph ship on the way out of the harbour.

The small oasis called the Ayûn Mûsa has been fully described in guide books, and Baedeker gives an enlarged plan of the locality with the heights of the springs in detail.

The place consists of a few springs of limpid but brackish water, small pools with gardens of palms and tamarisks around them, as well as beds of vegetables and culinary herbs.

These gardens are kept by a Frenchman and some Arabs, who have provided summer-houses for the convenience of those who resort thither from Suez to enjoy the fresh desert air.

They form the market gardens from which the vegetable supply of Suez is principally drawn. There exists also a solitary pool upon the top of a neighbouring hill of sand, having one single palm beside it.

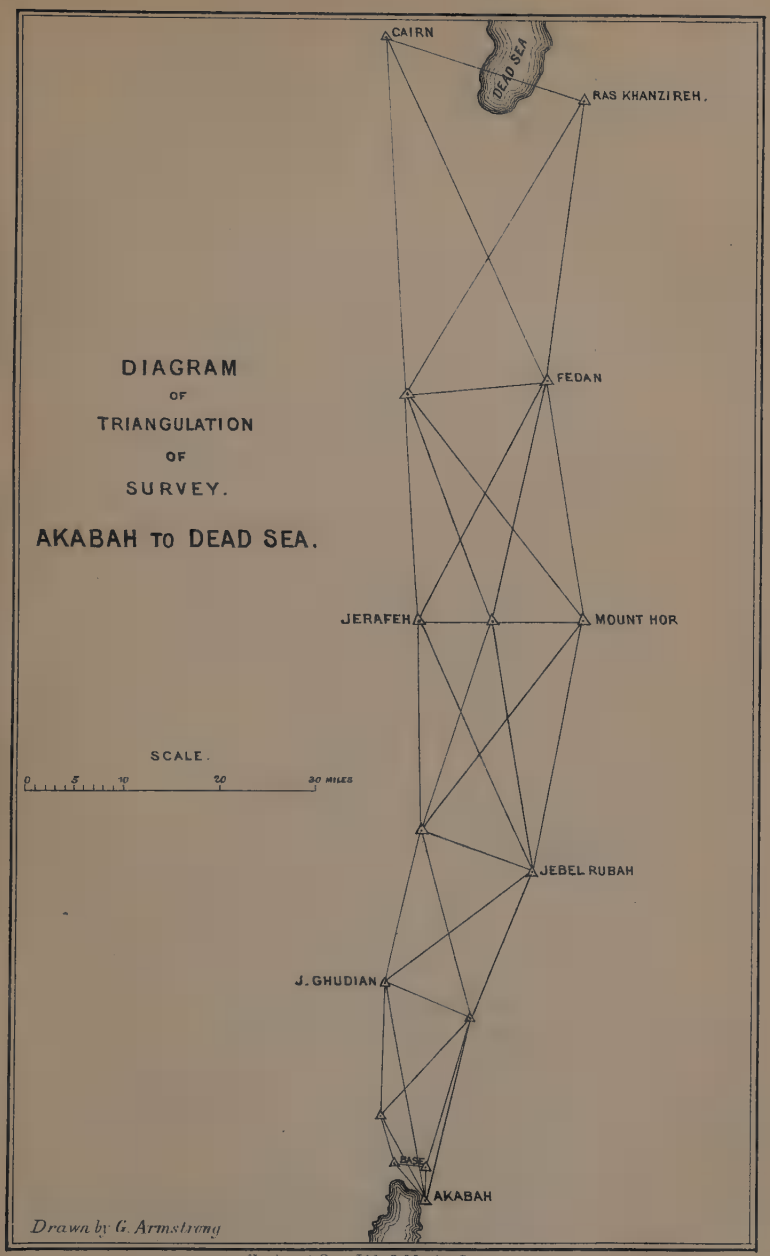
While camped there I went over my stores and instruments, and took some astronomical observations to see that all were in proper order for the start.

On the 12th November, camp was moved to Wâdy Sudur; the route was over an open plain by the sea-shore with a line of cliffs supporting the Tîh plateau, about ten miles to the east. Torrents from these cliffs had covered the ground in many places with rocks and boulders. These torrents are extremely short-lived, coming down in force when any rain falls, and drying up almost as quickly. When it ceases, they spread themselves over the plain in many shallow channels, covering a large area with stones and *débris*. One had come down Wâdy Sudur about ten days before, and the traces of wet mud, &c., were still visible over the plain. This wâdy has become famous for the tragedy enacted in August, 1882, when Professor Palmer, Captain Gill, and Lieutenant Charrington were murdered here.

I obtained from an Arab of the Haiwat tribe a story of the murder which I have never seen published in any account of it. I give it merely for what it is worth: Arabs, as everybody knows who has had to do with them, have a remarkable facility for making up a story to meet a supposed occasion.

This was the story in the Arab's own words:—

"Arabi Pashi, directed by the Evil One—may he never rest in peace!—sent to his lordship the Governor of Nakhl to tell him that he had utterly destroyed all the Christian ships of war at Alexandria and Suez; also that he had destroyed their houses in the same places, and that the Governor of Nakhl was to take care if he saw any Christians running about in his country, like rats with no holes, that the Arabs were to finish them at once. On hearing this news, a party of Arabs started to loot 'Ayûn Mûsa and Suez. Coming down Wâdy Sudur they met the great Sheikh Abdullah



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and his party; they thought they were the Christians spoken of by Arabi Pasha, running away, so they surrounded them in the wâdy. But the Arabs ran away from the English, who defended themselves in the wâdy; all night they stopped round them, but did not dare to take them till just at dawn, when they made a rush on them from every side and seized them all.

"The Arab Sheikh, who had come with the party, ran away with the money. The Arabs did not know Sheikh Abdullah, and did not believe his statement, and when he offered money, his own Sheikh would not give it, so they believed that the party were running away from Suez, and they finished them there. Afterwards the great Colonel came and caught them, and they were finished at Zag ez Zig. May their graves be defiled!"

Such is the story I heard, and there seems to me to be some amount of truth in it.

Colonel Sir Charles Warren's energetic action in the capture and bringing to justice of the perpetrators of the crime, has created a deep impression, and I consider that the whole peninsula is for foreign travellers now as safe as, if not safer than, it was previously. While on this subject I may mention that I found Professor Palmer's death everywhere regretted deeply by the people, and his memory still warm in the hearts of his Arab friends in the country. Many of them came unsolicited to ask me if I had known him, and to express their sorrow at his loss.

From the length and breadth of Wâdy Sudur I should imagine it must drain a considerable area on the Tîh plateau. The existing maps appeared to me to be wrong after Sinn el Bisher, or Jebel Bisher, as the true scarp appears to recede considerably. I was unable, however, to prove these points, but if a map were made of this part it would probably show considerable variation of the existing plans.

The tract after Wâdy Sudur passes over more rolling country to Wâdy Ghurundel, where we camped for the second night; the wâdy flows between banks, and is of considerable importance, and drains an extensive country broken up by high hills; on the edge of the Tîh scarp there are springs and some trees in the valley.

Wâdy Ghurundel forms the boundary of the Ordnance Survey, so that from this point to Jebel Mûsa the map was complete. I was able to sketch in some features on the border of the finished Survey while passing.

Our route led through Wâdy Humrah, Wâdy Nasb, Wâdy Kamileh, from which Armstrong and I visited the temple at el Sarâbît el Khâdim.

The sandstone columns and tablets are in many cases in an excellent state of preservation, and the hieroglyphics were in many cases almost as sharp and perfect as when first cut; others were very much weathered, some tablets 7 feet 6 inches high, by 2 feet wide, and 1 foot 6 inches thick, and rounded at the top like the Moabite Stone, appeared to me to deserve a better fate than being left to perish from the effects of the weather and the vandalism of the Arabs. Excavations here would, I think, reveal many interesting points connected with the Egyptian occupation of this country at the time of the Exodus. I noticed that the artist had been

inspired by his surroundings ; engraving the Ibex in different positions to form ornamental patterns round the hieroglyphic inscriptions. There were several stations on the surrounding hills where tablets stood, similar to the one described ; but these have been mostly thrown down and broken up.

[The following description of Sarâbît el Khâdim is given by the late Professor Palmer, in his book, "The Desert of the Exodus."

"Although only 700 feet in height, the ascent of Sarâbît el Khâdimis by no means easy.

"A scramble over a rough slide of loose sandstone at the upper end of the valley, a treacherous sloping ledge of rock overhanging an awkward precipice, and a steep ravine which brings into play all one's gymnastic capabilities, leads to an extensive plateau broken up by many deep ravines and rising knolls. On one of the highest of these last is a heap of ruins—hewn sandstone walls, with broken columns, and numerous stelæ, in shape like ordinary English gravestones, standing or scattered at irregular intervals about the place, the whole being surrounded by the *débris* of an outer wall.

"The building consists of two temples, apparently of different dates—one constructed entirely of hewn stones, the other formed by two chambers excavated in the rock at the easternmost end, and having a walled continuation in front. In the largest of these chambers the walls show signs of having been once completely covered with hieroglyphics, though a great portion have now scaled off ; at the upper end is a small niche, probably the altar, beside which is carved a figure in bas-relief. Another niche is seen at the right-hand corner, and in the centre of the chamber is a pillar, cut in the solid rock and covered with hieroglyphics. Some of the hieroglyphics in this cave still bear traces of the paint with which they were formerly ornamented—emerald green inside the characters, with a red and black band above and below.

"The cornice of the wall which forms the continuation of the temple is ornamented with a pretty pattern, and fragments of Egyptian coping lie around the entrance.

"The *stelæ* above mentioned, as well as such of the walls of the building as are still left standing, are also covered with hieroglyphics, and amongst them may be remarked the *cartouches* of many of the earliest Egyptian kings.

"The purpose of these monuments was for a long time enveloped in mystery, but the researches of Professor Lepsius and other learned Egyptologists have shown that they were connected with the working of copper mines in the neighbourhood, and that the temple was probably that in which the miners and their guards worshipped the national gods of Egypt.

"The mines themselves were first rediscovered by Mr. Holland, during a previous visit to the peninsula, and were carefully examined by the Expedition on this occasion ; they exist in great numbers in the neighbourhood of the temple, and several of them contain beautifully executed hieroglyphic tablets.

"From the inscriptions and cartouches found there, it is evident that the mines were in full working order at the time of the Exodus.

"There is another means of access to the ruins of Sarâbît el Khâdim, by a ravine rather higher up the main valley, which involves a less toilsome climb; but as it also necessitates a walk along a narrow sloping ledge of rock, with a terrific precipice beneath, I cannot recommend it to the traveller unless he feels confident in the possession of a sure foot and a steady head.

"The name Sarâbît el Khâdim signifies 'the Heights of the Servant,' and the place is said by the Arabs to have been so called from a black statue, representing a 'servant or slave,' which was removed 'by the French' during their occupation of Egypt. Amongst the ruins we noticed a pedestal, which might have served for the base of such a statue; and I have since seen in the British Museum a beautifully executed female foot, carved in black stone, which formed part of the collection of curiosities found by the late Major Macdonald in this very spot.

"It is not unlikely that amidst the antiquities in the Louvre, the remaining portion of the 'Khâdim' from Sarâbît may yet be found.

"The hieroglyphic inscriptions from Maghârah range from Senefru of the third Egyptian dynasty to Thothmes III, of the eighteenth line; those of Sarâbît el Khâdim end with Rameses IV, of the twentieth, after which period the mines and temples were abandoned. No inscriptions have been discovered at Sarâbît of kings who reigned between Thothmes III and the twelfth dynasty, nor any after the twentieth. They occur rarely and after long intervals after Rameses II.

"One of the principal tablets at Sarâbît el Khâdim refers to a certain Har-ur-ra, superintendent of the mines, who arrived there in the month Phamenoth, in the reign of some monarch not mentioned, probably of the twelfth dynasty. The author of the inscription declares that he never once left the mine; he exhorts the chiefs to go there also, and 'if your faces fail,' says he, 'the goddess Athor will give you her arms to aid you in the work. Behold me, how I tarried there after I had left Egypt,—my face sweated, my blood grew hot, I ordered the workmen daily, and said unto them, there is still turquoise in the mine and the vein will be found in time. And it was so; the vein was found at last, and the mine yielded well. When I came to this land, aided by the king's genii, I began to labour strenuously. The troops came and entirely occupied it, so that none escaped therefrom. My face grew not frightened at the work, I toiled cheerfully; I brought abundance—yea, abundance of turquoise, and obtained yet more by search. I did not miss a single vein.'

"Another inscription runs:—'I came to the mines of my lord, I commenced working the Mafka, or turquoise, at the rate of fifteen men daily. Never was like done in the reign of Senefru the justified.' These and the frequent recurrence of tablets representing the various kings triumphing over and slaying their foreign captives, will enable the reader to judge of the nature of the mines and the manner in which they were worked by their Egyptian discoverers."]

On the morning of the 18th I took observations with the theodolite from Zibb el Baheir (a trigonometrical station of the Ordnance Survey), over the district to the north-east through which we were to pass, also into Jebel el Watiyeh, on the edge of the Ordnance map, which was formed into a trigonometrical station by observing with the theodolite from it, subsequently observing from Jebel Mûsa. I was thus able to fix many points in the country we were about to survey from a very extended base of Ordnance survey work.

On the 22nd November we left the surveyed country at El Watiyeh, and I made a detour by 'Ain el Akhdar, which I was able to fix; the spring is of good water, and is perennial, with a few palms and other trees hidden in the corner of the valley. I then made my way across low-lying hills at the foot of outlying scarp, to the Wâdy Zelakâ, where camp was pitched.

Next day our road led down Wâdy Zelakâ, which bends towards the east, about a mile from the camping ground; and where the bed of the valley opens out Armstrong came across a stone circle almost buried in the sand, the top of the stones only being visible. Striking across to the eastern side of the valley, where a detached piece of rock stands conspicuously out, he found some Arabic inscriptions and a lot of figures, chiefly animals, rather roughly carved out on the face of the rock. The valley, though bounded by steep cliffs, has an open, level, and wide bed, which is one of the principal features of the wâdies in all this region, making the passage of even very mountainous districts easy for animals and even possible for wheeled traffic. No valley of importance joins the wâdy from a continuous line of high hills with cliff, cutting off all communication up that side.

Camp was pitched at the end of this range of hills opposite the broad mouth of Wâdy Biar, where there is an open space with an isolated hill in the centre. Wâdy Abu Tareifeh here comes in from the south-west, joining Wâdy Ughelim from the south, and flows into Wâdy Zelaka; the valley here takes the name of Wâdy Biar, and after a few miles turns to the north at a point where there are some nâwamîs.

These nawâmîs are small round circles of stones, some of them built up into a dome shape, having a small entrance on one side; they are a great deal too small for human dwellings, and they are not, as far as one can judge, tombs. They occur in many places in the peninsula, and are generally in groups; there are usually some traces of ruined walls about. The entrance is not in any particular direction; the stones are small, and have not any appearance of having stood from very remote antiquity. I have never seen the question of their origin satisfactorily explained.

While travelling subsequently through the country to the south-east of Gaza on my way to Ismailia, I noticed the Arabs cultivating the ground extensively; they live, of course, entirely in tents, and the barley they grow is sent in to market, but the chopped straw is made up into numbers of small heaps on the ground and covered with earth, forming little domes exactly like the nawâmîs. There are few stones on the Gaza plain, and

Figures cut on the rock in Wady Zelakâ



Copied by G. Armstrong.

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little earth to spare in the wâdies of the peninsula. I would suggest that they are stone houses of the Arabs when they cultivated these wâdies, probably not very long ago. I saw no traces of cultivation now, but there are many places that would repay the labour well; and, as far as I can judge, nawâmîs are usually found not far from some spot of this sort.

The walls in the neighbourhood are the traces of the enclosures round the tents. I know that much has been written about these nawâmîs, but having no books of reference with me I submit this opinion with diffidence.

[The late Professor Palmer, along with Mr. Drake, visited these nawâmîs and groups of many others, and gives the following remarks in his book, "The Desert of the Exodus."

Professor Palmer thus describes them :—

"Shortly after passing 'Ain el 'Elyâ (Râs el 'Ain) we came to a group of nawâmîs, those quaint beehive huts of which I have before spoken.

"They stood on the hills to the east of the wâdy, and were more perfectly preserved than any which we had hitherto seen in the peninsula.

"They consisted of two detached houses, on separate hills, and a group of five on the side of a higher eminence. The first two had been used as Arab burial-places; but of the second group at least three out of the five were apparently untouched.

"Their dimensions average 7 feet high by 8 feet in diameter inside. They were circular, with an oval top, the construction being precisely the same as that of the nawâmîs in Wâdy Hebrân, but the perfect condition in which they have been preserved exhibits in a much more striking degree the neatness and art of their builders. In the centre of each was a cist, and beside that a smaller hole, both roughly lined with stones; these were covered with slabs of stone, over which earth had accumulated.

"Some human bones which we found in the cist at first led us to the conclusion that they were tombs; but the small size of the cist, and the evident fact that they had never contained perfect skeletons, proved the idea to be erroneous. In the smaller cist the earth showed signs of having undergone the action of fire, and, in one or two, small pieces of charred bone and wood were found. The doors, which are about 2 feet square, are admirably constructed, with lintel and doorposts. All the stones used in the construction are so carefully selected as almost to give the appearance of being hewn, and those in some of the doors have certainly been worked, if not with any instrument, at least by being rubbed smooth with other stones.

"A flint arrow-head and some small shells were found in one of the nawâmîs. They are evidently dwelling-houses; but I must leave to those who are better versed than I am in the science of prehistoric man the task of determining to what race they once belonged; the remains are certainly some of the most interesting which I have met with in the East. The country all around is covered with them, every hillside having some remains of nawâmîs upon it; but, owing to their exposed position, they

have none of them been preserved in so perfect a state as those just described. Close by the nawâmîs were some stone circles. There would seem to have been a large settlement of these people in the neighbourhood of 'Ain el 'Elyâ.

"The word nâmûs is not known beyond Sinai, the Arabs in other parts of the desert calling them merely gusûr, or castles."]

After three miles the valley turns again abruptly to the east, and at the corner are the important springs of Râs el 'Ain (called 'Ain el 'Elya by Professor Palmer), surrounded by palm-trees ; the water is good and plentiful, forming a small stream running towards a narrow passage (Es Sûk) in the granite hills ; this does not at all prepare the traveller for the grand gorge he has a few steps ahead of him. On entering Es Sûk the cliffs close in on both sides, forming every combination of turn and bend, and running up to about 800 feet with sheer precipitous sides ; every turn increases the height and grandeur of the gorge, while the small stream keeps the place cool and green with many plants and shrubs. Careful traversing had to be adopted through the gorge, which extends four miles.

Camp was pitched beyond the gorge, where another spring occurs called Ain el Akari, watering a small patch of reeds and palms. I had to observe from several high points on either side of the gorge in order to carry on the continuity of my observations.

On the 26th camp was moved. After passing through narrow valleys surrounded by granite hills, the road emerged opposite Jebel 'Aradeh, a high mountain of white limestone, which had to be ascended for observation. In the open portion of the valley there is a well of good water, having a perennial supply, called Bir es Saura : it occurs in a small cave. This well was said to belong to the Terabin tribe of Arabs, but I could not find out that any of them ever came here, and it is certainly detached from their main possessions to the north and west of Nakhl.

The broad valley up which we travelled changes its name frequently as it passes each locality : thus in a few hours it becomes Wâdy 'Aradeh near the Jebel 'Aradeh, Wâdy 'Attiyeh opposite the tomb of the Sheikh of that name, and Wâdy Herteh at Jebel Herteh where we camped.

To the west of Wâdy Herteh the country is much broken up by small hills and valleys. The valley itself is large and open. After bending to the east and passing between some hills it again changes its name and becomes Wâdy el Hessy, which name it retains to its source. There is a small well in Wâdy Hessy, called 'Ain Hamâti, with a scanty supply of water.

The route continues in Wâdy Hessy, which gradually opens out on to an extensive plain ; crossing the plain to the north the watershed is reached : it is formed of low hills with a descent of a few hundred feet to a lower plain on the north. On the west is the range of hills called Turf er Rukm, running out into the plain as far as the Haj road, ending in abrupt cliffs. A broad valley leads away to the north called Wâdy Shiah, joining eventually the Wâdy Jerafeh, and thus falling into Wâdy 'Arabah and the Dead Sea. To the east of this valley are the granite hills of Jebel Humra

jutting up in innumerable sharp peaks. The Derb el Haj runs immediately south of the Jebel Humra, through an open plain which is bounded on the south by a line of cliffs running east from the watershed. We passed along the plain and camped above the Nukb, or descent to the Gulf of 'Akabah.

The Derb el Haj descends about 2,000 feet to the plain of 'Akabah, by a carefully constructed road; the rock had to be considerably excavated in places, and bridges span the watercourses when necessary. A carriage could be driven down the descent without much risk; the road winds down a steep hillside for the first mile, and then descends by a valley through granite hills to the plain below. Before descending I had to make a long detour in order to obtain a good station to observe from, and I was fortunate in finding a point from which I had a splendid view of the Wâdy 'Arabah, which became afterwards one of my trigonometrical stations when passing up the valley.

The Admiralty Survey does not correctly give the form of the head of the bay, which is not so pointed as shown. At the lowest part of the valley the soil is soft and loamy; the remainder of the broad bed is sand and *débris* from the hills.

The castle of 'Akabah is an extensive but ruined building situated close by the sea-shore on the eastern side of the bay, and is surrounded by a few wretched hovels and extensive groves of palm-trees along the shore. It is the abode of an Egyptian Governor, who has a few soldiers at his disposal, and is considered an important station on the Egyptian Haj road. There is practically no trade in the place, as ships never come there. The bay contains sharks and numerous other fish.

'AKABAH TO THE DEAD SEA.

The party had to remain three days at 'Akabah, while arrangements were being made with Sheikh Muhammed Ibn Jad, of the 'Allawîn Arab tribe, to take us up the Wâdy 'Arabah.

During this period I was fully occupied measuring a base line on the plain and starting the triangulation of the valley. I was also able to survey some portion of the shore line and hills about 'Akabah, which were not correctly laid down on the Admiralty plan. I measured the base line completely across the valley: its length was 233·86 chains. A point close to the castle of 'Akabah was observed for the vertical angles, and the system employed for extending the triangulation up the valley can best be seen from the attached diagram of triangulation. The Sheikh Muhammed Ibn Jad declared that he could only take us as far as Petra, and that from there we should be obliged to strike across country to Gaza.

On the 3rd December we left 'Akabah, shortly followed by another party, who had been sent out by some company to ascertain the height of the watershed above the sea, by a line of levels from 'Akabah.

About a mile from the north-east corner of the bay Armstrong observed a number of small mounds similar to what are usually found on old sites;

fragments of pottery of various colours are found, and an old wall of masonry is seen cropping out here and there.

The general features of the valley are well known. On the east are the bold granite mountains of Midian, intersected by valleys that have thrown out a mass of *débris* into the main valley, forming a semicircular fan-like ramp up to the mouth of each wâdy ; these are very marked, and when seen from the opposite side of the valley have a very curious effect.

On the west limestone cliffs form a continuous scarp, broken at places and intersected by granite upheavals ; very few important wâdies join the valley on this side, although there are naturally many small ones from the scarp itself. Camp was pitched near Ed Deffieh, some brackish pools of water in the muddy slime that formed the lower portion of the valley ; some rain that had fallen while we were at 'Akabah increased the difficulty of passing this sticky mud.

Next day we passed Wâdy el Mânei'aieh, flowing from the west, and forming a picturesque recess in the scarp of the western side of the valley, with a granite outbreak closing the entrance. The limestone scarp then continues regularly. I had to visit a high prominent point upon it, to take observations, and from here for the first time I saw and observed into Mount Hor. The ascent of the scarp was a stiff climb of 1,500 feet.

Camp was pitched near the border of the marsh of Et Tâbâ.

Et Tâbâ is a considerable marsh of mud and rushes, extending the whole width of the bed of the valley. There is a passage round it on either side ; the western one leads by 'Ain Ghudian, while the eastern road passes 'Ain Tâbâ, where there are palm-trees, and pools of water and reeds ; to the north of the marsh begin the blown sand dunes with a few scattered palms.

At the north-west extremity of the marsh a spur runs out from the western scarp for three miles, and under it is the 'Ain Ghudian ; there is a pool of water, and several wells giving a plentiful supply of good water.

I found the foundations of a rectangular building, about 20 yards square ; there were also tracks of ancient lines of wells converging from the hills on to the 'Ain, and an Arab graveyard that has been noted before. I saw no traces of a Roman road.

To the north of 'Ain el Ghudian the centre of the valley is choked with sand, leaving a passage on either side.

The hills on the east decrease in height, giving place to limestone and sandstone hills, joining a high range in the background called Jebel Serbal ; the scarp on the western side continues regularly with no wâdies of importance breaking through ; there are several minor valleys. Camp was pitched at the mouth of one of those, called Wâdy Galaita.

Next day I had again to ascend to the top of a prominent point on the western scarp near Wâdy el Beiyaneh, from which a good round of angles were observed ; just below the point there appeared to be a small water-shed ; the water channel from the eastern side comes across the valley and flows to the south down the western side, while the valleys from the hill I was on appeared to me to flow north ; it was so late and dark when I got

down from the point I was on, that I was not able to examine this point as closely as I should have liked, but my impression was that there is a small depression in the valley here which does not drain south, unless when a considerable flow of water from the north filled the depression, causing the water to overflow.

The western scarp falls away after the high point near Wâdy Beiyaneh, forming low rolling hills with large openings, through one of which the main road turns westward over the lowest portion of the watershed.

Camp was pitched in the centre of the valley, at the mouth of Wâdy Heyirim, four miles south-east of the lowest point of the watershed.

To the south-east of the camp Wâdy Ghurundul joins the Wâdy Arabah; this valley breaks through a narrow and romantic gorge, and has a good supply of water at 'Ain Ghurundul, situated some distance up the valley.

Next day I made an excursion to the west, surveying the low hills and the lowest portion of the watershed, which is on an open plain dividing Wâdy 'Arabah from Wâdy Jerafeh, flowing north from a south-westerly direction after the opening to the low watershed. A low line of cliffs running north-north-east commences on the western side of Wâdy 'Arabah, separating it completely from the Wâdy Jerafeh; I walked along these hills, called Er Rishy, until I reached the watershed of the main valley at the mouth of Wâdy Huwer, flowing from the east. This watershed is 320 feet higher than the other, and is the commencement of the great valley flowing south up which we had come.

The watershed is curiously formed—just at the mouth of this wâdy, part of the waters of which run north and part south. Those running north are joined by several wâdies from the Mount Hor range, and after passing the end of the low range of hills separating the valley here in an easterly direction, join the big valley of Wâdy Jerafeh or Wâdy el Jeib.

Armstrong found a ruined building in the valley. It measured 102 feet square, with well-cut drafted masonry. The building did not appear to date prior to Saracenic times—very probably one of the old road stations on the highway to 'Akabah.

Camp was pitched in Wâdy Abu Rusheibeh.

The eastern hills here recede, leaving a sort of amphitheatre in front of Jebel Harûn, the Mount Hor of Scripture, which rises magnificently in the centre. There is a mountain of white limestone immediately south of Mount Hor, over which it towers and gains by the contrast of its dark red hue over the white. Looking thus at Mount Hor from the south it appears to rise in several pinnacles, the highest of which is surrounded by a glistening white dome covering the tomb of the patriarch Aaron.

The scenery is exceptionally fine, and I do not consider former writers have exaggerated the grand appearance of Mount Hor; the brilliant colours of the rocks have been remarked by all travellers, but surpassed what I expected to find.

As I had been observing into the dome of Mount Hor for some time I was very anxious to complete my observations by obtaining a round of

angles from there. Next morning therefore an attempt was made to go up without warning the Arabs, as had been done by Palmer and Drake; but this was frustrated, as I expected, by the Arabs having heard of our coming, and being on the alert. Two parties of our size travelling up Wâdy 'Arabah cannot do so without being remarked and making a sensation. We, however, penetrated up the valley leading to Petra for some distance, and noticed remains of terraces and some buildings on the slope.

We camped at the mouth of the wâdy that evening, and next morning was spent in discussion with the Arabs as to the amount for which they would take us to Mount Hor and Petra. As we could not come to terms, camp was moved in the afternoon towards the Wâdy 'Arabah and pitched in Wâdy Harûn. The Arabs then gave way and acceded to the terms we had stipulated for. Next morning we started before daylight and returned to the ruins we had visited before; from thence we ascended by a steep zig-zag path to a saddle on the Mount Hor range. Passing along a slightly descending ridge we soon came to the base of a mountain rising from the ridge: this is Mount Hor, being actually from this side a mountain on a mountain, though, from the north the descent is much more precipitous to a far lower level. Unfortunately, the morning was exceptionally hazy, so that it was difficult to distinguish surrounding features.

An old path, similar to that on Jebel Mûsa, with worn steps made out of boulders at difficult parts, led up the mountain to another level space or platform, from which the highest peak rises abruptly. Passing over some ruined arches on an ancient cistern or building, the path leads up steeply by steps cut out of the rock itself to the summit, where there is the usual little round dome on a square building covering the tomb of the patriarch Aaron. Looking inside, one saw the usual carpet covered cenotaph, with some ostrich eggs hanging over it—all in an uncared-for condition. We had to wait some hours on the summit owing to the mist which hung in dense clouds about us until 12 o'clock, when it partially cleared, and I was able to take some observations which were necessary for extending the triangulation to the north. After observing, we made our way rapidly down to Petra, and were able to visit the ruins and the more important tombs. There was no time to make a thorough investigation, but I was able to verify the accuracy of Laborde's plan of the place, and was much struck with the stupendous works in rock-cutting that had been undertaken and executed with the nicest accuracy; also with the immense number of tombs, the ornamentations being as fresh and clear as when first cut, particularly those at Pharaoh's treasures. The colours of the rocks are wonderfully variegated, and most brilliant; red to purple and blue are the most predominant colours, and these are set off by a cold grey background of limestone hills.

The ruins and tombs would doubtless well repay a thorough investigation.

It was dark when we got to the pas we had come up at dawn in the morning, and we reached camp about 9 P.M. after a long day.

Arrangements having been made with the Sheikh of our party to take

us to the Dead Sea next morning, we started down the eastern side of Wâdy 'Arabah instead of crossing to the opposite side, as we should have done had our original route to Gaza been maintained.

I went across myself in order to take observations from the other side of the valley, as well as to survey the detail. The valley is here about ten miles broad; the main water channel runs down the western side, and takes the name of Wâdy el Jeib with the main course alongside.

The hills on the western side are low, and much weathered, being of a soft, easily disintegrated limestone. It was late when I found the camp on the eastern side of the valley, and under the circumstances of camp moving continuously along the eastern side of the valley, I was compelled to give up attempting to do the western side, as it was quite beyond the power of myself and camel. I regret therefore that there is here an unsurveyed gap in the work.

Camp was moved next day to 'Ayûn Abu Werideh, or Buweirdeh; it was impossible to find out the exact name, as the Arabs themselves were divided on the subject. I am inclined to think Buweirdeh is the correct name. It is almost impossible to collect the correct nomenclature when travelling so rapidly through a country, with Arabs from a different district, and though I took every means in my power to determine the names definitely, I am not at all confident that in all cases I have obtained the correct names, or nearly as many as might be collected by a more prolonged visit to the neighbourhood. A good deal of blown sand from sand dunes in the valley lead up to the springs which break out in several places from some soft loamy soil in the valley, and form several small streams full of reeds, tamarisk, bushes, and palms, &c.; the water is slightly brackish.

Near the springs Armstrong observed terraces of an old town of considerable extent. There are numerous little mounds of artificial appearance; fragments of coloured pottery abound. The foundation of a building is seen, the stones having a very old and time-worn look, and portions of an aqueduct, level with the ground, are traceable from one of the springs leading to the site.

Next day I was able to obtain good observations from Samrat ez Feidan, from which the Lisan in the Dead Sea was clearly visible.

A considerable perennial stream of water runs down Wâdy Feidan, only losing itself when the valley opens on the plain of Wâdy 'Arabah. Doubtless the plain east of Jebel Feidan was a most fertile garden in former times, and it would take very little to make it so again. I have rarely seen a spot more suitable for every sort of culture, yet it is now a barren waste, and until the Arabs of this country are placed under some control it doubtless must remain so. The wooded mountains to the east about the ancient Dhana form a picturesque background; the ruins of this town, I was informed, were as interesting as those at Petra, with carving in rocks, &c.

Camp was pitched near the mouth of Wâdy Guweibeh, and I was extremely glad to find that a day's halt was to be made in this locality.

Next day, by starting early, I was able to visit the western side of the valley, a distance of twelve-and-a-half miles; I observed with theodolite from a trigonometrical station on the hills beyond Wâdy Jeib, and was able to take up the survey again on that side, thus making the gap unsurveyed as small as possible. Owing to the want of knowledge of the locality by my guide, I was unable to visit 'Ain Aeibeh, which I had much wished to do.

Armstrong explored the country towards the east, and found, six miles north-east of Feidan, the ruins of a small town in a valley, surrounded by bold and precipitous cliffs; the ruined walls are from a foot to 3 feet high, the stones roughly squared, and of no great size; some black heaps resembling slag heaps point out that very probably ancient mines may be found in the neighbourhood. A path leads from Wâdy 'Arabah to this valley, crossing the watershed into Wâdy Ghuweir, where it joins, leading up the valley in a south-easterly direction, a beaten and well-worn track: this was probably the pilgrimage road from Gaza to Mecca. Lower down in the wâdy (Wâdy Ghuweir) are numerous springs of sweet water trickling out of the bed of the wâdy; and in a narrow gorge the rocks are literally covered with Bedouin tribe marks, Arabic inscriptions, &c., the work of pilgrims on their way to Mecca.

Next day was unfortunately extremely hazy, and for the three following days it was impossible to distinguish the western side of the valley at all.

We were not able to proceed a full day s march owing to the intrigues of the Arabs.

Camp was pitched at Ed Debbeh close to the descent to the ghôr. We passed a large ruined tank and remains of several buildings at the mouth of the Wâdy Utlah; these remains appeared to me to be of no great antiquity, and to date from after Crusading times. There is little doubt that all the eastern side of the valley was once a most fertile district, the streams of water in each valley being used to irrigate gardens and extensive cultivation, instead of running to waste on the hillsides, as shown by the remains of terraces which still exist almost perfect in many cases.

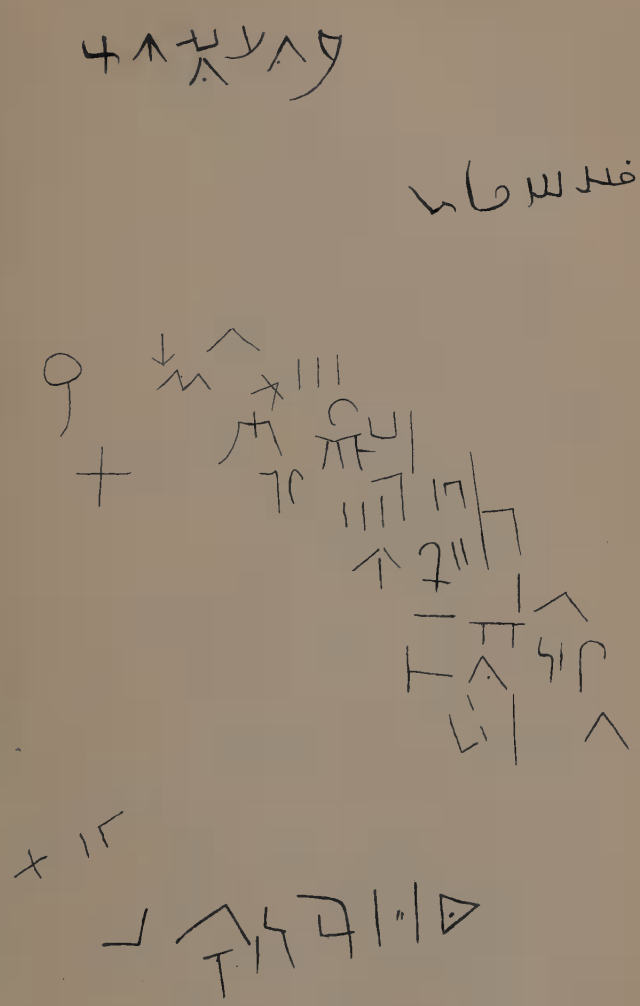
I heard many stories of the ruins and interesting country that lie to the east, which formed the ancient land of Edom, and I was frequently told that Wâdy Mûsa or Petra is not the most extensive ruin in that district.

The descent to the ghôr was down a sandy slope of 300 feet, and the change of climate was most marked, from the sandy desert to masses of tangled vegetation with streams of water running in all directions, birds fluttering from every tree, the whole country alive with life: nowhere have I seen so great and sudden a contrast.

The principal Sheikh of the Huweitât Bedouins, Sheikh 'Arâr, was camped close to the bottom of the descent, and he came out with some mounted men to meet us.

The country ruled over by Sheikh 'Arâr includes nearly the whole of ancient Edom, from Jebel Serbal to the ghôr where the Bedouins were camped; he is chief of the Bedouins who do not cultivate the ground. There are also several other small tribes of fellahin Arabs who cultivate the ground, and also acknowledge him as their chief; these fellahin are more

Example of Bedouin tribe Marks and Arabic Inscriptions in Wâdy Ghuweir.



Copied by G. Armstrong

Harrison & Sons, Lith., St. Martins Lane, W.C.

difficult to deal with than the Arabs themselves, having no law, and acknowledging no government. The only way to deal with them would be through Sheikh 'Arâr, who is a very respectable Sheikh, and to whom they have to pay tribute. The 'Allawîn Arabs under Sheikh Muhammed Ibn Jad rule the country to the south of Jebel Serbal and to the east of the Wâdy 'Arabah; they are closely allied to the Huweitât Arabs, and originally they say they were all one tribe. Even now the 'Allawin call themselves sometimes Huweitât; they are under the Egyptian Government, and are employed to protect the Haj road south of 'Akabah. Another branch of the same Arabs is the important tribe of Egyptian Huweitâts under Sheikh Ibrahim Ibn Shedid, whose influence extends over the tribes as far as 'Akabah.

These three Sheikhs rule over a very vast country; they are closely related by marriage, as the Arab Sheikh is very particular that his wife should be of noble blood, *i.e.*, of the family of the Sheikhs. They also recognise that they were originally of one tribe, although they are now completely independent of one another.

The next most important tribe is the Ma'azi Arabs; they rule over the mountains of Kerak, which they are said to have taken from Sheikh 'Arâr's Huweitât tribe. They say they are very numerous in the far East, and the three sections of the Huweitât all complain of the pushing nature of the Ma'azi on their frontiers. There is a large settlement of Ma'azi Arabs in Egypt, extending from Suez southwards along the Red Sea shore as far as Kosseir.

These Arabs everywhere have a bad character for thieving; they are divided up under numerous Sheikhs, and are continually making raids on the Arab tribes round them; they are generally very poor.

The only other two tribes of importance in this region are the Terabîn and the Taiyâhah; the latter are divided into two sections, the Taiyâhah and the Azazimeh. For many years the south country has been in a disturbed state, owing to the war going on between these two tribes; the dispute was about the boundary of the tribe lands near Bîr es Seba. Peace has now been obtained by the internal divisions of the Taiyâhah, a portion of whom have gone over to the Terabîn, the remainder having no heart to continue the conflict, although it may break out at any time.

The Taiyâhah have no friends or allies in any of the tribes around them, and have a feud with the great Huweitât family. The Terabîn, on the contrary, are at peace with their other neighbours; they cultivate the ground extensively about Gaza, and are closely allied to the Huweitât of Egypt. They bear a good character, and are a rich tribe.

The Terabîn rule the western portion of the south country, the Taiyâhah having the eastern portion as far as Wâdy 'Arabah.

The Haiwât are a small tribe occupying the country about the Haj road; they are ruled by Sheikh el 'Ayân Mismeh, who has his camp generally about Bîr etu Therned. Men of this tribe were the principal actors in the murder of Professor Palmer and his companions; they are a poor tribe, under the influence of Sheikh Shedid of Egypt.

Camp was pitched in the Ghur el Feifeh, near Wâdy Tufihel, and next day we moved on to the Ghôr es Safieh, where the Ghuwarneh were encamped. These are a wretched race of fellahin, who cultivate the Ghôr es Safieh, and are pillaged by the Huweitât from the south, the Ma'azi from the east, and the Taiyâhah from the west. They are the same race as those that occupy the ghôr at Jericho.

They were actually engaged in ploughing up their ground, which is well watered by the streams from Wâdy Safieh. Notwithstanding the constant blackmail they have to pay to different tribes they seemed to be well to do, and I believe make a good deal in trading with the Bedouins in barley, wheat, beans, &c. Owing to various causes we were obliged to stay in the Ghôr es Safieh until the 27th December.

The south end of the Dead Sea is formed of extensive mud flats of a very slimy character. The recent rains had doubtless contributed to the soft state of the mud, but the natives told me it was never hard. It was almost impossible to reach the edge of the water of the Dead Sea through the mud. A line of driftwood had been thrown up a considerable distance inland, forming a shore line almost half-a-mile south of the water's edge.

I found it was quite impossible to measure a base line through this slime, and the dense vegetation of the ghôr left no open space available. After several attempts I was obliged to relinquish the idea; this I regretted very much, as I found the portion of the Dead Sea to the south of the Lisan had been very inaccurately delineated on previous maps, and the Lisan itself had to be moved considerably, as will be seen on the plans.

I took several observations into the trigonometrical station on our old survey of Palestine, and was able to connect my triangulation up the Wâdy 'Arabah from 'Akabah in this way with very satisfactory results. The diagram of triangulation and plans will show the observations that were taken, and how the connection was established principally through the observations subsequently taken from a cairn on Râs Zuiweirah.

Overlooking the ghôr on the eastern side, just above the ruins of some modern mills at Kusr Sh. Ali, Mr. H. C. Hart, in his botanical rambles, found some very interesting ancient remains at a place called Khurbet Labrush. These remains consisted of a large number of nawâmîs, some of which were in a wonderfully perfect state of preservation. These nawâmîs are dotted about thickly over the site without any plan, and the openings in them having no especial direction; a few loose stone walls near some of them have the appearance of having been thrown up recently round tents. Enclosing the greater number of these nawâmîs is an ancient wall following the contour of the hill for a quarter of a mile; only the foundations remain, but they were of massive undressed masonry, of apparently remote antiquity. Inside the wall there are the ruins of an oblong building of similar masonry, very probably an ancient temple; unfortunately the remains are so ruined that it is impossible without considerable labour to thoroughly explore or measure this monument: only one corner could be determined, the remainder being covered by heaps of massive stone blocks.

There are several other heaps of ruins and large cairns of stones inside


SKETCH PLAN
of
KH. LABRUSH
& NAWÂMÎS.
Ruins
Kusr sh. Ali
Wady el Hesy
Kh. Labrush
Nawâmîs
TOWER
Pathway
Scale
0 200 200 400 600 800 1000 1200 1400 1400 yds.
G.A. del.
B. Weller

the enclosure, but these are all detached and do not appear to be the remains of a town. I could see no extensive remains of buildings such as are found in ancient sites in Palestine.

The wall ran nearly north and south, and at the southern end there are the remains of what was probably a tower ; traces of the wall can then be seen following the hillside for a considerable distance, and enclosing the hill. The nawâmîs are not all inside the wall, and appear to me to be of more recent construction. An apparently old roadway leads through the ruins, and crossing a saddle of the hills leads up to the high hills on the east.

The remains appear to me to be those of a very ancient site subsequently used by the Arabs as a camping ground. I could find out nothing from the Arabs about these remains, though they are well known.

The view from here over the gorge of Es Safieh to the north is a very fine ; the various and brilliant colours of the rocks are most marked ; cliffs of a bright rose colour line the stream, alternating with yellow, dark red, and purple.

The ruins in the Ghôr es Safieh appear to be all modern ; there is a large reservoir and several ruined mills, all of Arab construction.

A track across the mud flats leads to the base of Jebel Usdum, the mountain of salt, on the western side of the valley. I found that this mountain had to be considerably altered in shape and position to what it has been shown on existing maps. It is almost detached from the surrounding hills, and descends abruptly in cliffs to the Dead Sea shore. It reaches a height of 600 feet above the Dead Sea, and is broken and cracked by many fissures. All round the ghôr there is a border of the same marly hills, more or less washed away, and extending for some distance up the valleys.

On the 27th December we passed round the Jebel Usdum by the seashore and followed a road leading up the Wâdy Zuweirah. The road leads up a winding ravine in the bare limestone hills that extend all along the west side of the Dead Sea.

A picturesque Saracenic castle, now in ruins, is perched on an isolated hill in the centre of the valley, defending the pass from an enemy advancing from the east.

An ingenious loophole has been cut in the rocks on the opposite side of the valley in advance of the castle, from which the valley is entirely commanded.

After the castle the road ascends steeply by zigzags to a pass, after which the country is more level, but continues to ascend as far as Râs Zuweirah.

Camp was pitched after dark in Wâdy el 'Abd, where there is a small supply of water. The water supply in these wells is very limited.

Next morning I was able to obtain a valuable round of observations from the cairn on Râs Zuweirah, at the top of the ascent. The cairn itself was apparently a very ancient landmark or tumulus, and is seen prominently from all the country round.

Passing over some rolling hills through very open country, with a few ruins distinctly marked by the verdure around them, we encamped on the edge of our former surveyed work at Tell el Milh. The following day we marched to Bîr es Seba, and from there to Tell abu Hareirah, all in the published Map of Palestine.

At the latter place I left the party, and with four Arabs of the Egyptian tribe struck across country by a southern road to Ismailia. The rest of the party proceeded to Gaza.

I was greatly assisted in my work by Mr. George Armstrong, late Serjeant-Major R.E. who has had a vast amount of experience in surveying in the East for the Palestine Exploration Fund, and without his aid I should not have been able to arrive at nearly as satisfactory results on this expedition.

The means of surveying adopted was, 1st: In the Mount Sinai work taking a broad base over twenty miles long on Sir Charles Wilson's surveyed country; positions were fixed by observation, and a chain of observations were kept through to 'Akabah.

2nd. At 'Akabah a base line was measured, and the former work connected with it. A triangulation was then extended up the Wâdy 'Arabah until, at Râs Zuweirah and Kusr Sh. Ali, it joins on to the old triangulation of Palestine proper.

The attached diagram of triangulation will show the number of points observed.

The plans will show full details of the work done. Heights were obtained up the Wâdy 'Arabah by vertical angles.

The total area triangulated and surveyed in the above manner in the two months employed is roughly 3,000 square miles.

Owing to the rapid passage of the party through the country, and the impossibility of getting guides with local knowledge, the names are not, in my opinion, in every case reliable, although I took every opportunity to check them by local information as much as possible. Many more names could also be collected by a more lengthy stay in the country.

I had the names written down in Arabic, so that the spelling is as correct as possible; but I have reason to believe the localities were not always correctly shown.

TELL ABU HAREIRAH TO ISMAILIA.

On the 31st December I left Tell abu Hareirah with four Arabs of the Huweitât tribe of Egypt that had been sent to us at the Dead Sea with a letter from Sir E. Baring describing the disasters in the Soudan.

The rest of the party went on to Gaza to undergo quarantine.

As the El Arish road was well known, I determined to march direct on Ismailia, thus striking out a new line, and passing through much more interesting country. One of my party, Abu Suweilim, had been employed by Sir C. Warren in hunting the murderers of Professor Palmer, and was one of the most energetic useful Arabs I have ever met: he had

been the road we were about to take fifteen years before; the others did not know the road at all, and were of the usual Bedouin type, lazy and greedy.

Passing over a plain of cultivated ground, with numerous Arab tents, the inhabitants of which were busily employed in ploughing, and which had been already surveyed about one o'clock, I came to Wâdy Fara; this is a large and deeply cut wâdy, and contained a good deal of water. Just below the crossing there is a prominent mound called Tell el Fara, and before descending there are some traces of ruins and foundations of buildings called Kh. el Fara, but nothing of importance was left. An hour beyond the valley is a well-known tent called El Khudra, where for the last ten years a merchant from Gaza has traded with the Arab tribes, and doubtless does a good business, as many of the Arabs dare not show themselves in Gaza. The trader was a Bulgarian, and was so delighted at hearing his native tongue spoken that he would take no pay for the provisions of coffee, dates, and a saddle-bag I bought; he said he often had dangerous times with the Arabs, but that he bought a protection from the most powerful of the neighbourhood, and always obtained restitution of anything stolen.

We pushed on over open country until dark, when we made our camp fire on an open plain with a number of Bedouin's fires blazing round us. I was passed as Abdullah Bey, an Egyptian official journeying back to Egypt after having been to Jerusalem, and although it was only begun for that little while, I thus revived the name borne by a much more distinguished traveller, the great Sheikh Abdullah, and although it was only stated to stop the curiosity of the Arabs we met, I soon found I was called nothing else.

At dawn we were up, and after feeding the camels and getting some coffee brewed we were ready to start at 8.30. During the whole journey I never could manage to get started much before this hour, as the Bedouins require some time to get the night chills out of their bones; the nights were certainly very cold and damp. Our track after crossing a plain struck a road coming from the north-west, and after rising a slight hill the country gradually became more and more sandy, all signs of cultivation gradually dying out, and the continual climbing up and down the sand dunes being most fatiguing and monotonous. At 12 o'clock the track changed direction to south-west, down an open valley amongst sand dunes called San'a el Men'aî, and we camped in a little valley surrounded by the sand. Next morning the route was continued over sand dunes, and we came early to a considerable pool of rain-water called El Khubara; it is formed by the soil of Wâdy Abyad being turned by the Arabs into an old valley bed which is now closed, and they informed me it was kept full all the winter by rain-water coming down the wâdy. A few minutes further on is the first big valley since Wâdy Fara; it is called Wâdy el Abyad, Wâdy Khubara, and Wâdy ez Zayik, and runs with a broad bed through the sandhills to the north-west; there are many tamarisks and bushes along its course. Here we stopped for an hour to bake bread, and

then leaving the valley crossed over more sandhills which seemed interminable. At last the country opened out, and after passing over some very broken ground we arrived at Wâdy el 'Arish.

The valley runs in a deeply-cut bed with mud banks; it is here about 80 yards wide. There was a pool of rain-water in a bend of the valley, which my guides informed me covered a well called Bîr el Mujdebbah, and if my guides' account was true, that water could be got here all the year round; this is the only perennial source on this road as far as Ismailia.

After Wâdy el 'Arish the country opens out into a broad plain with an isolated small range of hills called Jebel el Bena in the centre. To the north there is a sandy covered range called Riza Anizeh, and to the south the high hills of Jebel Helah; a track leading away to the south-west between Jebel Bena and Jebel Helah through an open plain, led, I was told, to Suez. Here camp was pitched.

Next day we passed close under Jebel Bena on the north side over a stony plain called Ragadda; the hills were formed of nummulitic limestone, and appeared perfectly dry and bare; the wide open plains were very flat and bare of vegetation, with the exception of a small amount of the usual desert shrub. It was a great relief to get clear of the sand dunes, which ended close to Wâdy el 'Arish.

On reaching the end of Jebel Bena the high range of Jebel Yelek appeared to the south-west, and the long range of Jebel Mugharah flanked the valley on the north; an open plain up which we travelled led between these two, and our track ran close under the Jebel Mugharah. I was told there was a cave in the interior of these mountains which contained a perennial supply of water. The hills rose abruptly from the plain, and appeared to be of the same formation as the nummulitic range of Jebel Bena. In some places the strata were much bent and contorted. At nightfall we reached a ruined well called Bîr el Hemmeh, which contained a small quantity of stagnant water which had a very unpleasant smell.

Next morning we passed a small ridge formed by a volcanic outbreak of trap rock, and shortly after the sand began to appear again. In a few hours we reached the watershed of the valley; the sand had increased to high ridges and hills, through or over which we had to find our way. The watershed was flat, another open valley leading away to the west with Jebel Felleh on the south, and a continuation of the Jebel Mugharah range on the north. We camped on the sand near a prominent top called Jebel el Urf, which forms a landmark on this road.

Next morning we crossed the low ridge under Jebel el Urf, and passing down a sandy valley at noon we came to a flat of mud which formed the end of the valley, a barrier of sand having been thrown up and thus stopping up the valley completely. Crossing this ridge an immense extent of sandhills appeared as far as the eye could reach. I do not think I have ever seen so desolate and dreary a country: nothing but ridge after ridge of sand dunes for an immense distance. The wind blew

a strong gale from the west, sending the sand up into our faces so sharply that the camels would at times hardly face it. This wind lasted, unfortunately, until we reached Ismailia, and was very trying to the whole party.

We camped under a sandhill and had a very cold and windy night Next morning it was found we had no water. The Arabs are always most improvident about water, and require continual watching; during the night they had used up the last drop, and in the morning said they could not go on without a fresh supply, as there was no chance of water before Ismailia, and they did not know how long it would take to get in.

They said they could find rain-water in Jebel Felleh. I, however, insisted on going on, and with some difficulty got the camels under way. Two of my Arabs had been lagging behind for some time, so one of the Arabs and myself went back and drove up the camels; the two Arabs were sulky and deserted; however, we got the camels all right. Pushing on through a blinding storm of sand over hill and valley, with only the compass to guide us, at 4 P.M. I saw Lake Tumah, and skirting the shore reached the ferry over the canal at dusk. I had some little difficulty in getting the party across the canal, and was not sorry when I reached comfortable quarters in Ismailia.

H. H. KITCHENER.

THE SECTION OF THE WÂDY 'ARABAH.

THE Wâdy 'Arabah extends from the head of the Gulf of 'Akabah to the south end of the Dead Sea, and is 112 miles long.

The width of the valley at the foot of the hills, from 'Akabah to near the lowest point of the watershed, averages about six miles.

A series of low ridges, called Er Risheh, of about 150 feet above the plain, run obliquely across the valley at this point, forming a length of ten miles. Opposite Mount Hor the valley widens out to thirteen miles, and gradually narrows in to six miles at the south end of the Dead Sea—the same width as that at 'Akabah. The sectional line is drawn from the Gulf at 'Akabah, through Wâdy 'Arabah, representing the lowest depression, to the southern end of the Dead Sea, and continued to the northern end, where the river Jordan enters, showing the depression of the Dead Sea, and that part of Wâdy 'Arabah below the sea level of the Gulf of 'Akabah.

The lowest point of the watershed (660 feet above Gulf of 'Akabah) is computed to be forty-five miles from 'Akabah, and twenty-nine miles farther north the sea level point is reached.

The sketch of the outline of the hills on the eastern side of the valley is given relative to the calculated heights as noted.

Those on the western side (not shown on section) range about 1,900 feet above sea level.

GEO. ARMSTRONG.

ANTIQUITIES OF PALESTINE IN LONDON.

(*Reproduced from the "Times."*)

London and Paris are the only two cities possessing special collections of Palestine antiquities. I do not include in this category rare specimens which may exist sporadically in other European museums or in private hands. These London and Paris collections are, it is true, upon the whole, very trifling, particularly if compared with those, so rich, so varied, which give beside them so imposing an idea of the great civilisation of Egypt, Assyria, Greece, and Italy. It is strange, indeed, that Palestine, which has so long absorbed the attention of so great a number of *savants*, and has the privilege of always exciting the public interest, should not be better represented from an archæological point of view. It is, above all, of this little corner of land, holding so large a place in scientific and religious preoccupations, that one would be anxious to possess monuments as witnessess of its history. The time has, I think, arrived for taking serious notice of it, and seeing if it would not be advisable to inquire into the cause of this inferiority and the means of doing away with it. It never struck me more forcibly than when, some months ago, I was engaged in making a methodical inventory of the monuments of Palestine belonging to the Palestine Exploration Fund and the British Museum. I intend to sum up the result of my researches upon this subject, and, after having submitted to the public a cursory but exact view of the situation, point out such a combination as would permit of its advantageous modification.

I will begin by giving some information upon the antiquities of Palestine existing in Paris. I will then speak more fully upon those which exist in London, because, never having been made the object of a general study, they are less known as a whole.

I.

The Museum of the Louvre has possessed, since 1870, a room for Judaic antiquities, or, to speak more correctly, for antiquities from Palestine. In 1879 the catalogue did not exceed 83 numbers, several of which are only casts. The most precious pieces are the Moabite Stone, which I was enabled to complete, thanks to the little fragments collected by Sir Charles Warren, and kindly presented by the Committee of the Palestine Exploration Fund; a Moabite bas-relief from Chihau, representing a personage with a helmet, of Egyptian style, brandishing a lance, perhaps a King of Moab; a votive white marble foot from Jerusalem, with Greek dedication of a thankful heathen woman named Pompeia Lucilia healed at the Pool of Bethesda; a few sarcophagi, or fragments of sarcophagi, from the tombs of the Kings near Jerusalem, one of which bears an Aramean and Hebrew inscription in the name of Queen Saddan (probably the famous Jewish proselyte Helena, Queen of Adiabene); three

or four Jewish ossuaries in soft limestone; a marble bas-relief from Ascalon, representing three female divinities; a *figurine* in solid gold of Egyptian style, found by me at Gaza; a bas-relief from Gadara, representing the candlestick of the Temple, with the seven branches; a seal, with Hebrew Archaic characters in the name of Shebanyahu, son of Uzziahu.

This little series, which is, properly speaking, a mere embryo collection, will be more than doubled by the antiquities brought by me in 1882 from my last mission in Palestine. They are not yet exhibited, for want of space; I have just published the illustrated catalogue[1] of them, amounting to 111 numbers. I would point out, among other things, six bronze statuettes, two fragments of marble statuettes, among which a colossal head of a woman, of very fine style, from Sebastiyeh; four bas-reliefs, one of which, found at Arsuf (Appollonias), proves that, notwithstanding all that has been said, the ancients were acquainted with the use of horse-shoes; 57 vases and terra-cotta lamps; a Jewish ossuary, with sculpture in relief (very rare); a pair of capitals, one of which bears the legend ΕΙΣ ΘΕΟΣ ("only one God"); a large massive bronze dish richly ornamented with Jewish symbols; a Phœnician inscription, discovered by my mother on Mount Carmel; 21 Greek inscriptions; eight Roman, two of the Crusades, &c.

II.

The list of antique objects from Palestine preserved in the British Museum consists, as far as I could find, of only 57 numbers. These objects are at present dispersed here and there in different parts of the Museum, and have no special numbering, beyond their registered mark of entry. While reproducing, when possible, these registered marks, I have, for greater convenience, given to this scattered collection of objects a series of numbers, classing them in natural groups.

With the exception of a few pieces of the highest order, the objects for the most part are not of great interest. I would mention, in the first place, the two Hebrew inscriptions discovered by me at Selwan, near Jerusalem, in 1870, the possession of which I assured to the British Museum. These two texts, in archaic characters of Phœnician form, belong to the epoch of the Kings of Judah, and are to be placed parallel with the famous inscription of the aqueduct of Siloam. Thanks to them, the British Museum is, as yet, the only museum in Europe possessing, in the original, specimens of Israelitish epigraphy anterior to the Exile. Afterwards come five intaglios, or gems, with Hebrew archaic inscriptions, having certainly belonged to ancient Israelites, as indicated by the characteristic form of the names of their possessors, adorers of Jehovah—Asyu, Yokim, Hananyah, Gadyah, Sephanyahu, Nehemyahu, Mikayahu, &c. Apart

[1] "Mission en Palestine et en Phénicie, entreprise en 1881." V^e. rapport. Paris: Maisonneuve et Cie., 25, Quai Voltaire. (With 80 engravings and 12 heliographic plates.)

from these monuments, the current epigraphy of Palestine is only represented in the British Museum by a Samaritan inscription from Nablus (Sichem), of rather late epoch, a Greek inscription of Sebastiyeh (dedication of M. Licinius Alexander, son of Quartinus), and a kind of stone seal from the same place, bearing a brief Greek-Byzantine epigraph. I would also mention, though belonging indirectly to Palestine, a disk of green enamelled earthenware of Egyptian manufacture, coming from Gaza or Ascalon, and bearing in relief a cartouche of the King Rameses II.

The British Museum is poor in Palestinian terra-cotta lamps. It only possesses nine, five of which have been acquired from the Palestine Exploration Fund. Two of these bear the ordinary Greek Christian legends. Among the generic types or heads under which I have been led to class all the Palestinian lamps, and which are not represented in the British Museum, I would in particular point out the Jewish type, of which I shall speak presently.

The British Museum possesses about fifteen terra-cotta vases of divers shapes, coming, for the most part, from Bethlehem and from Beit-Sahur; and some fragments of painted pottery picked up in the country of Moab.

In the way of sculpture there is a terra-cotta *figurine*, found, it is said, at Bethlehem (I have some doubts on this point); this *figurine* recalls the terra-cotta *figurines* of Babylon, and represents a nude woman supporting with her two hands her voluminous bosom; a mutilated head in white limestone, brought from Kadesh by the regretted late Dean Stanley (these two objects are very curious); a lion's muzzle in marble, half broken, from Jericho.

In the way of bronzes, there are four belt plates, with figures in bas-relief of Roman style, found in a tomb on the Mount of Olives, and given by Pococke; a small statuette of a man, from Jerusalem, draped in the Roman toga, leaning on a stick, and holding a roll, destined to be fixed on a staff.

Among the objects in glass are to be remarked two tesseræ, one in blue glass (brought by me from Ascalon), the other in white opaque glass from Gaza, both representing in relief the double face of the Egyptian goddess Hathor.

One of the most interesting objects in this little Palestinian series would be, if the origin assigned to it were well established, a large shell (*tridæna elongata*), with engravings both in and outside, precisely similar to the engraved shells found in Assyria, and of which the British Museum possesses several specimens. Amongst other symbols there is represented the head of a god with large outspread wings, and a figuration of the sun in circles of lotus. This shell, acquired from the Rev. Dr. Barclay, was discovered in 1865 in a tomb in the vicinity of Bethlehem, not far from the so-called sepulchre of Rachel.

III.

The Palestine Exploration Fund possesses a comparatively large number of antiquities, coming, for the greater part, from Sir Charles

Warren's and from my own excavations and researches in 1873–4. These objects are deposited in the office of the Fund or exhibited in the South Kensington Museum. However, a number of them, found by me and belonging to the Fund, have remained at Jerusalem, whence it would be desirable to have them sent for.

It was to be regretted that these articles now in London had not yet been made the subject of a regular catalogue. A short time ago I undertook this work—rather difficult work indeed, which lasted over a month. Too frequently exact indications respecting the origin were wanting, and when the objects bore tickets or marks, these were either dubious or illegible. The difficulty was further increased by the unequal and casual allotment between the office of the Fund and the South Kensington Museum, which sensibly complicated the comparison, the rational classification, and the material numbering. I am glad to take this opportunity of thanking Mr. Walter Besant, Secretary of the Fund, Sir Philip Cunliffe Owen, and Mr. Sandham, of the South Kensington Museum, for the very obliging manner in which they facilitated my task.

Now each article is marked with a number, permitting it in future to be easily found again, and quoted with precision; it is moreover represented in my catalogue by a descriptive notice, in which I have made all useful observations concerning its origin, form, use, and, if necessary, its interpretation. This first work effected, I have proceeded to a methodical classification by analogical series, thus creating so many sections where antiquities subsequently obtained will take their place.

I intend shortly to publish this catalogue, which may be of real service, particularly if accompanied by drawings representing the most important objects and types of each series. In the meantime, a brief account of this detailed inventory will perhaps be read with interest.

The antiquities actually existing at the office of the Fund, as well as at South Kensington, number 666. I have excluded from them, with certain rare exceptions, divers objects evidently Arab or modern. Neither have I included, for want of sufficient information, those remaining at Jerusalem or elsewhere.

These antiquities may be classed as follows, according to their material :—

Articles in stone, 150 numbers; in terra-cotta, 444; in glass, 20; cement and plaster, 11; articles in bronze, 19; in iron, 8; in lead, 3; in ivory and bone, 6; in wood, 1. There must be added to this total 4 false monuments (three Moabite potteries, and the pretended sarcophagus of Samson in lead).

Among the objects in stone, there are nine bas-reliefs or statues more or less fragmentary. The most interesting of all is certainly the winged cherub, with human head, of Assyrian style, engraved on the rock discovered by me in 1871 and cut out in the vast quarries called Royal Caves, extending under a part of Jerusalem. I would further point out a pretty head of a woman in marble (Artemis) brought by me from Ascalon in 1874; a torso of a faun in marble (statuette); a bearded

head of Jupiter; the right eye of a statue life-size (found at Ophel, 27 feet deep, by Sir Charles Warren). Among the inscriptions on stone, six in number, may be noticed an original fragment of the bilingual Greek and Hebrew inscription of Gezer, indicating the legal boundary of the city, and four marble tituli from the necropolis of Joppa, with Greco-Jewish epitaphs.

I shall rapidly review the other groups, occasionally giving a few summary particulars concerning the principal objects :—

Eleven ossuaries, or fragments of ossuaries, of which nine with Hebraic or Greco-Hebraic inscriptions.

Twenty stones vases, of which four (small libation vases and tables) are quite out of the common, from their form and ornamentation.

Thirty fragments of architecture of various epochs.

One fragment of mosaic paving.

Thirty hand grindstones or polishers in silex, hard limestone, sandstone, and basalt.

Twenty-five cones or cylinders in soft limestone or chalk, whose use is yet to be determined, and which served, perhaps, as polishers.

Nineteen bullets and balls of silex, basalt, and limestone (projectiles ?).

Eight weights in hard limestone in the shape of thick discs, with turned down bevelled edges. One of them bears on both sides characters appearing to be Semitic. The real nature of these objects is placed beyond doubt by an as yet unpublished specimen in my collection, found at Jerusalem, bearing, in Greek characters of the first century of our era, "The year 5 of King Athamas." This king Athamas, who reigned at least during five years, is perfectly unknown in history. But the presence of this formula, identical with the monetary legends, certainly shows that we have to do with a weight, for the close affinity existing between numismatics and metrology is well known.

Eleven divers objects in stone, some of which deserve special notice. In the first place, the valuable seal discovered by Sir Charles Warren in his excavations, and bearing in Hebrew archaic characters the name of Haggai, synonymous of the prophet, son of Shebanyahu. Next, a small block of basalt, roughly squared, pierced on one side with a conical hole, narrow and deep, perfectly polished in the interior. I think I have succeeded in determining the use, until now unknown, of this singular object, discovered by Sir Charles Warren in his excavations at Ophel. It is simply the lower pivot upon which a door revolved. Considering the smallness of the hole, the revolving axle of this antique door must have been in metal (bronze or iron).

A fragment of moulded basalt coming from the same excavations also much attracted my attention. I am inclined to recognise in it a fragment of the edge of a stela, similar in form to the Moabite Stone. If my idea be correct, we have, perhaps, here the remains of a monument of the Kings of Judah, of inestimable importance, more significant parts of which may not impossibly be discovered some day.

Four fragments of terra-cotta figures from Jerusalem; a pretty head of

a statuette (woman or child), and three fragments of a rude and primitive art, from my excavations in Jerusalem (torso of a woman, head and body of a quadruped).

The terra-cotta lamps form, with the vases, the larger if not the more important sections of the collection of the Palestine Exploration Fund. They consist of no less than 197 numbers. I have, after attentive and careful study, succeeded in dividing them into eleven principal groups, excluding the less frequent varieties. Each of these groups appertains to a special type.

I cannot enter here into the particulars of this classification. I shall confine myself to dwelling upon the first of these groups, consisting of twelve lamps which I consider as properly Jewish. What led me to attribute this origin to them is the nature of their ornamentation, their style, their fabrication, their general shape. Upon several of them I find the characteristic Jewish symbols, the *ethrogs*, the two-handled vase, the grapes, &c. They all present this peculiarity of having under the basis a prominent circular pad, with a small button in the centre. The burner is of quite special rounded form ; the handle is short, pyramidal ; the clay is fine, the workmanship elegant. Such are the diagnostic features by which I propose to recognise henceforth lamps of Jewish workmanship.

The group of lamps with Christian Greek inscriptions number 11. They are of the formulæ already known, "The light of Christ shines for all," or "beautiful lamps," and others sometimes very carelessly traced and almost illegible.

I have formed a group of nine lamps of antique shape, which I believe to be of Arab manufacture. This may cause astonishment at first. But the fact is confirmed by the presence upon two of these lamps of incontestably Arab letters traced in relief around the central hole.

The terra-cotta vases number 219. I have also distributed them among several classes according to their similarity of form. In the first rank I would point out the six handles of amphoræ, with stamps in Hebrew archaic characters, found in the excavations of Ophel by Sir Charles Warren, and the large vase covered with bas-reliefs, found in my excavations at Bezetha.

I shall relate, incidentally, a little discovery made by me in the course of this part of my catalogue. Sir Charles Warren brought from Jericho a gigantic neck of an amphora (the neck alone measures 41 centimètres) which was buried in one of the *tells* of the plain. Upon the edge is a Latin stamp, already published, giving the potter's name. But in attentively scrutinising the fragment I have further ascertained the existence of two lines of Greek characters, traced in ink with the *galam*. They are extremely faint and indistinct, and one may understand that they have escaped notice until now. I read in one of these lines, ΟΥΙΝΟΣ ΧΙΟΥ, "Wine of Chios." The hybrid Greco-Latin form ΟΥΙΝΟΣ (*vinum* and *οἶνος*) is most remarkable. At all events, this epigraph gives us exact information as to the destination and age of this enormous recipient.

Among other objects in terra-cotta, numbering thirty-four, two deserve

a special mention. They consist of two fragments of tiles or bricks, marked with the stamp of the 10th Legion *fretensis*, left by Titus in garrison at Jerusalem after the siege in which it had taken an active part.

The objects in bronze comprise a little Egyptian *uræus*, an ape, a ram lying down, a bust of a woman with a suspension ring on the head, mirrors, a spiral spatula, two clasps, a ring, a part of a helmet, an *umbo* of a shield, a triangular spatula, a candelabrum of the Crusades, &c.

Iron is represented by a few nails and fragments of a doubtful age; lead, by a small *figurine* of Venus Anadyomene found by me at Jerusalem, and two seals, one of which, ornamented with a personage in an ædicula, appears to have been used to close up the orifice of a narrow-necked vase; ivory, by an elegant female figure holding a crown, brought by me from Ascalon, a small plaque, marked with concentric annulets, a die and various remains, among which are some cylindrical fragments, belonging possibly to an antique flute; wood, by a few morsels of carved cedar, burnt and decayed, found in the ruin of an ancient church near Jericho.

IV.

Such is the summary of the antiquities of Palestine existing in London. One may see that, even adding to them those of the Museum of the Louvre, the whole makes a very modest group, since it does not amount to 1,000.

Among the number are pieces which are really of the highest order, and suffice to show that well directed researches might produce most important results. It is, at the least, a guarantee of success for the future—a testimony proving that the Holy Land still contains, and can deliver up to seekers, monuments capable of rewarding them for their trouble, and of shedding unexpected light on her history.

If until now she has been so sparing of her treasures, it is, above all, owing to the nature and special purposes of the researches hitherto undertaken.

The Palestine Exploration Fund has, beyond doubt, rendered immense service to Biblical studies, and accomplished, with rare energy, a grand work with which will remain connected the names of Wilson, Warren, Conder, and Kitchener. Its *Quarterly Statements* published since 1869, and filled with the most interesting information, its admirable maps of Western Palestine, its beautiful volumes of "Memoirs," give brilliant evidence of its efficiency. But its efforts have, until this day, been principally concentrated (and rightly, for one must keep within bounds and proceed methodically) upon the geography, geology, topography, and the descriptive archæology of the country. The searching for antiquities, the forming of archæological collections by means of acquisition, did not enter into its programme; the few antiquities collected have, so to speak, been accidentally met with.

The time appears to have come for the proposal of another aim. A

portion, and not the least one, of the task has been accomplished with the greatest success. After what has been done we must think of that which remains to be done, and consider whether it would not be advisable to organise a real museum of Palestine, in which could be arranged in methodical series all the fragments of its past that could be picked up, and of which the little collection belonging to the Palestine Exploration Fund would naturally form the nucleus.

It rests with the Palestine Exploration Fund to carry out this programme, by applying to it the resources at its disposal, and the means never grudged by a public who have constantly followed and supported its former undertakings.

I do not pretend to trace here the plan of this institution, which should be founded on the widest basis. I will limit myself to pointing out the general lines that it would, in my opinion, be expedient to follow in order to carry it into execution. The Palestine Museum should consist of a vast building in which would be placed together, not only all the local antiquities, all the monuments which could be obtained, but also reproductions in fac-simile, or casts, of monuments that cannot be displaced or that exist in other museums, plans in relief on a large scale, photographs, stereoscopic views, complete and attractive specimens of the animals, flowers, &c., peculiar to the country, costumes, ethnical types, tools, arms, instruments, geological specimens picturesquely arranged, &c. It would be well to join to these an extensive and animated panorama of the Holy City, and dioramic views of the principal localities and of characteristic scenes of popular life in Palestine, in order to add to this scientific combination an irresistible element of attraction and success. A library, containing all the principal publications relating to the Holy Land, and receiving any fresh ones as they appear, should be annexed to it, and put at the disposal of students ; rooms reserved for popular or learned lectures. In short, in the centre of London should be created a representation, as faithful, varied, and complete as possible, of Palestine, past and present, which would be as a living commentary on the Bible.

It should suffice to cross the threshold of this building in order to have a perfect view of the Holy Land, both instructive and interesting. The charge of entry, fixed at a moderate sum, would be devoted to the fund necessary for the progressive increase of the collections through the medium of agents residing in Palestine or visiting it at close intervals. By the existence alone of such a central institution, native seekers, certain of a ready sale, would be stimulated and multiply discoveries from all parts of the Holy Land. The first funds necessary for commencing might be obtained either by means of a subscription, or else by shares allotted to all those, and they are numerous, who are interested in the progress of Biblical study, and to whom they would secure certain advantages generally reserved to the founders of similar institutions. A sum nearly equal to that which has already been collected and expended by the Palestine Exploration Fund since its foundation would be amply sufficient.

If this project can ever be realised it is surely in England, in a country

so passionately fond of Biblical studies, and which has already made such great and fruitful sacrifices for the exploration of Palestine.

CH. CLERMONT-GANNEAU.

THE ROUTE OF THE EXODUS.

ON the eve of the departure of the Palestine Exploration Expedition from Egypt for the Arabah last year I sent to Major Kitchener a copy of my book, "The Hebrew Migration from Egypt" (Trübner), with a request that he would kindly note some places in the region he was about to visit as illustrative of my view of the route taken by the Israelites on their route from Egypt to the Land of Promise. I was specially anxious to learn certain particulars about the Haj route from Suez to Akabah, at the head of the eastern arm of the Red Sea, and about the region immediately to the east of Petra. The Expedition did not follow the above route, nor was time or opportunity permitted for the examination of the neighbourhood of Petra. Major Kitchener was, however, good enough to send me a list of the stations of the Haj, from Suez to Akabah, and their characteristics in respect to water supply, and after an examination of my views as to the course followed by the Hebrews, wrote to me as follows:—"I think in your book you have described the actual route taken by the Israelites, and I fully believe Mount Hor and Mount Sinai to be one." As, however, my view completely revolutionises all that has for many centuries been generally accepted, respecting not only the track of the Israelites on quitting Egypt, but the locality of Mount Sinai, it may perhaps not be uninteresting to the members of the Palestine Exploration Fund to summarise briefly the principal grounds on which I have based my conclusions.

According to the Scriptural account the following were the stages and the incidents of the journey between the Egyptian frontier and Mount Sinai. The Israelites went three days into the wilderness, and found no water; at their next stage they came to Marah, where the water was bitter. The next point mentioned is Elim, with its wells and palm-trees, where they encamped by the waters of the Red Sea; from Elim they entered the wilderness of Sin, which lay between Elim and Sinai, and whilst there received the quails, the eating of which caused so many deaths that the place was called Kibroth-hat-taavah (Numb. xi, 34). They then reached Rephidim, where there was no water for the people, and where Moses, having gone on before, caused water to flow through the riven rock. In this neighbourhood the Israelites met Jethro, the father-in-law of Moses, and his people, and concluded a league with them (Exod. xviii, 12). Then follows the mention of Mount Sinai, and what occurred there. This account of the route from Egypt to Sinai is perfectly intelligible, and as I show is alone reconcilable with the assumption that the Israelites crossed the Tîh by the well-known road to the Gulf of Akabah, and thence pro-

ceeded up the Arabah for some distance and entered the Idumean range by one of the valleys debouching on "the plain."

The time employed in crossing the Tîh from Suez to Akabah is six days. During the first three days no water is found, and the traveller then arrives at Nakhl, the half-way house across the desert, where there is good water. The next stage is Abiar Alaina, so named by the earlier travellers, where the water is bitter; the next, the summit of the defile overlooking the Gulf of Akabah; and the final stage Akabah (Elath), known in ancient and modern times for its wells and its palm-trees, and one of the resting-places of the Egyptian Haj on its road to and from Mecca.

It is therefore easy to reconcile the incidents of a journey across the Tîh with those related as marking that of the Israelites before reaching Elim. During three days they would seek in vain for water, which does not exclude the presumption that at the end of that time they obtained it; at their next stage they would reach Abiar Alaina, where the water is bitter; and the next place worthy of mention must have been Elath, with its wells and palm-trees. In the Scriptural records it is stated to have been Elim. Elim and Elath are, however, as every Hebraist knows, only different plural forms of El (as Hazarim and Hazeroth, Deut. ii, 23; i, 1, are plurals of Hazer), and have the same meaning, namely, "trees," or "palm-trees." I cannot here give in detail the many reasons, Scriptural, philological, historical, and geographical, for my identification of the Elim of Exodus xv, 27, with the Elath of Deuteronomy ii, 8, and the historical books (1 Kings ix, 26) which preserved its name until converted by the Greeks into Elana, and by the Romans into Ailah.

If the Israelites took the route I have indicated, then it will probably be admitted that Mount Sinai must have been somewhere in the Idumean range. The captives would scarcely have returned to the Tîh, and they did not until a much later period march along the east "coast" of Edom They consequently must have gone northwards up the Arabah.

I then proceed to show that if they took this route, they entered the Idumean range by one of the valleys communicating with Petra, that it was Kadesh in the vicinity of the Mount of God, and that the miraculous supply of water was obtained through the Sik, the marvellous chasm through which a stream enters Petra from the east.

The evidence supplied, not only in the Scriptural records, but elsewhere, in support of the accuracy of these conclusions is overwhelming. It is needless to say that there is not a word to be found in Holy Writ in which any allusion is made to the so-called Sinaitic peninsula.

In the blessing of Moses Sinai is placed in Seir (Deut. xxxiii, 2), and that the mountain range of Seir was in Edom is not disputed. In the song of Deborah (Judges v, 3, 4) the mother of Israel no less unmistakably indicates that to her mind Sinai was in Edom, and was one of the mountains of Seir. Habakuk sings of God coming out of Teman, and the Holy One out of Mount Paran (Hab. iii, 2), which mount is identified in the blessing of Moses with Sinai, whilst Teman is universally admitted to have formed part of Edom. The story of Elijah's journey to the Mount

of God (1 Kings xix) furnishes no great help in determining whether Sinai was in the peninsula or in Edom, but I show by Josephus's paraphrase of the story that in his opinion the prophet directed his steps to Edom. St. Paul beyond all question placed Sinai in Arabia (Gal. iv, 25), and I demonstrate by a careful examination of the earliest opinions held respecting the limits of that country, both by Arabian geographers and others, that it was not until the second century of the Christian era that Ptolemy created a new Arabia, called Arabia Petræa, which he is supposed to have extended to the west of the Arabah, comprising the Tîh and the Sinaitic peninsula; but this Arabia was absolutely unknown to St. Paul and his contemporaries, and could not in the necessity of things have been referred to by him when he used the words "Mount Sinai in Arabia." Isstachri, in the tenth century, and Abulfeda at a still later date, declared that Arabia did not extend west of the Arabah, and they would never have sought for Sinai to the west of that boundary. The Tîh and the peninsula were regarded in Judæa, until long after the commencement of the Christian era, as portions of Egyptian territory.

From a careful examination of the "Onomasticon," I show that Eusebius and Jerome, though evidently ignorant of the precise mountain to be regarded as Mount Sinai, were of opinion, on the strength of traditions existing in their time, and of beliefs held by their comtemporaries, that some of the places which in the Pentateuch must have been in close proximity to the Mount of God were in Idumea. Thus the place where Moses caused the water to flow from the rock at Rephidim they identified with what must be the later Petra. Pharan, which must equally have been in the neighbourhood of Sinai, they declared was three days' journey from Ailah on the *east;* but following the Roman road which led from Ailah through the Wâdy-el-Yitm to the east of the range of Seir, such a journey would take the traveller to a region bordering on Petra. It is, however, clear from the writings of Eusebius and Jerome, and I may also add Josephus, that at the commencement of the Christian era, and at the end of the fourth century, there was no one in Judæa who had a knowledge of the precise locality of Sinai. All that was known of it was that it was in Arabia; but if Josephus, or Eusebius, or Jerome, had known of any mountain which in their time was called Sinai, they would undoubtedly have fixed the locality by stating its distance from some place well known to their contemporaries For example, Mount Hor, where Aaron died, is unequivocally stated to be in the immediate neighbourhood of Petra.

It appears from the chronicles of the Monk of Chartres, and Albert of Aix, that at the commencement of the twelfth century Baldwin led two expeditions through Idumea. In the first he reached Petra and was there shown the waters which flowed from the rock when struck by the great Hebrew lawgiver, and in the adjoining Mount Hor the King and his companions were led to believe they saw Mount Sinai. In the latter expedition they proceeded as far as Ailah, at the head of the Gulf of Akabah, and were told that it was the Elim with its wells and palm-trees

mentioned in Exodus. Here they received a message from the monks living on Mount Sinai begging them not to ascend the mountain. I show that this mountain could not have been in the Sinaitic peninsula, but must have been the same to which reference is made in the record of the first expedition, as overhanging Petra, upon which was a Monasterium dedicated to Aaron.

I consequently demonstrate that all the evidence at our command, whether supplied by the Scriptures or by other writings, points in one direction alone, and indicates beyond doubt that Sinai was in Edom.

We possess, however, in the Book of Deuteronomy (x, 1–6) absolute proof that Sinai was not only in Edom, but was identical with the mountain where Aaron died, the *Har-ha-har*, "the Mount of Mounts," now known as Mount Hor. I need not say Mount Hor is not a proper name: it is simply Hor-Hor—Mount-Mount.

It is there stated that Moses having descended from "the mountain" with the second set of tables of stone placed them in the Ark. That this mountain was Sinai will not be denied. But immediately afterwards follows an account of the children of Israel setting forth from the walls of the Beni Jaakan to Mosera, and that there Aaron died and was succeeded by Eleazar. But it is undisputed that Aaron died on Mount Hor—the Mount of Mounts, and it is therefore abundantly clear that to the mind of the Deuteronomist—whether Moses or a later writer—the death of Aaron took place on or in the immediate neighbourhood of Mount Sinai. On grounds into which I cannot enter here I identify the Beeroth Beni Jaakan with the Esek and Sitnah of Isaac, and the Massah and Meribah of Exodus' which are to-day represented by two streams rising a few miles to the east of Petra and uniting before they penetrate the Sik. The well from which one of these streams springs bears to-day, as it did in the time of the Crusaders, the name of Ain Mûsa—"the Well of Moses."

Kadesh I identify as Petra, not only on the testimony of Eusebius and Jerome, but on the conclusive evidence furnished by the Targumists and Josephus that Rekam was the ancient Kadesh and the then modern Petra. Of the contiguity of Kadesh to the Mount of God, the Scriptural records leave us no room for doubting.

It will possibly be objected that if Mount Sinai and Mount Hor were identical, it is almost incredible that the people of Judæa should have lost sight of that fact, and that the recollection of Aaron's death on the mountain should have survived the memory of the far more wonderful event recorded as having occurred on the Mount of God.

I meet this objection ("Hebrew Migration," pp. 330–333), as I believe successfully, though I cannot here even summarise my arguments. We must not, however, lose sight of the only too palpable fact that Sinai, wherever situated, to all appearances fell into oblivion after the settlements on the opposite sides of the Jordan. No pilgrimages were made to it, and its recollection alone survived in the poetry of the sacred bards. But if it was in the peninsula this neglect is as surprising and unaccountable as if it was in Edom, and consequently this objection presses with equal weight

against the theories of those who identify Jebel Mûsa and Jebel Serbal with the Mount of God as against mine.

It will also be objected that if my view of the route taken by the Israelites be correct, the wanderings in the desert become still more unintelligible. My reply is, that although a considerable period—forty years—elapsed between the departure from Egypt and the settlement in the Promised Land, there is not the faintest suggestion, either in the Pentateuch or elsewhere in the Scriptures, that the Israelites passed that time in wandering from place to place in the manner popularly assigned to them.

The issue here raised is one not only of historical interest, but of deeply religious importance. If, as the Scriptures teach us, the Israelities were Divinely led to their future home, it is impossible to overrate the mistake, if mistake it be, of alleging that during the long period which elapsed between the departure from Egypt and their arrival in the Land of Promise, they were made to stray from place to place within a region which they could have easily quitted within a week.

According to my construction of the story of the Exodus the Israelites arrived at Mount Sinai—Hor, within a month after quitting Egypt (Numb. xx, 1), having crossed the desert of the Tîh probably by Nakhl, and Abiar Alaina (Marah) to Elim—Elath, at the head of the Gulf of Akabah, and thence northwards up the Arabah. They were there hospitably received by the Kenites who occupied the country adjoining Mount Hor (Exod. iii, 1). Some time after their arrival they addressed a request to the King of Edom to be permitted to pass through his territory in order to make their way to the trans-Jordanic region. This request was refused (Numb. xx, 21). Edom came out against Israel "with a high hand," and the further advance of the Israelites was arrested for a period, the length of which we cannot determine with certainty, and Israel "abode in Kadesh" (Judges xi, 17). Subsequently and probably when the "forty years" were nearly exhausted, despairing of being permitted to pass through Edom, the Israelites re-entered the Arabah from Kadesh (Petra), and having "dwelt long enough upon this mount," were commanded to "turn" (Deut. i, 6, 7), which they did, and "took" their journey into the wilderness "by the way of the Red Sea" (Deut. ii, 1), and having passed "through the way of the plain" (Arabah) by Elath and Ezion-gaber (Deut. ii, 8), at the head of the Gulf of Akabah, directed their steps northwards by the eastern border of Edom to Moab, and thence across the Arnon into the trans-Jordanic region.

This may appear a very startling version of "the forty years' wanderings in the desert." I cannot, however, claim for it the merit of originality. The same story was told much more succinctly nearly three thousand years ago, by one of the Judges of Israel. The authority of Jephthah will hardly be called in question (Judges ii, 16–18).

But it will then be asked, "What becomes of the famous wanderings?" My answer is that the belief in them has arisen through the misconceptions entertained in later ages of the very simple and intelligible language

contained in the Pentateuch. These misconceptions have arisen in part from misunderstanding the original story, by gratuitously assuming that the Israelites spent the forty years in moving from place to place, and in part from mistranslation of the Hebrew words which are supposed to mean "to wander."

Caleb is represented as saying that "Israel wandered in the wilderness" (Josh. xiv, 10), but the verb used, *Hah-lach*, literally means "to walk," and it is so stated in the marginal note in the Authorised Version. The same word is used in Deuteronomy xxiii, 14, "Thy God *walketh* in the midst of thy camp," and by Jephthah when he said, "Israel walked through the wilderness to the Red Sea" (Judges xi, 16). This word is frequently employed in Hebrew to signify a state of continuance, thus resembling the French verb *aller*.

Again in Numbers xiv, 33, the word *Rah-yah* is translated "wander," רָעִים though the translators admit in the margin that it also means "feed." The passage simply means that the rising generation were compelled to "feed" —that is, to live—forty years in the wilderness, until their disobedient parents had died.

In Numbers xxxii, 13, it is said that God "made them wander in the נוּעַ wilderness forty years," but the word so translated, *Noo-ay*, when used elsewhere does not bear this interpretation, but simply means a change of movement consequent on the non-realisation of the object originally prompting it (2 Sam. xv, 20). It would therefore be applicable to the change of route forced upon the Israelites when they failed to secure a passage through Edom, and after a long delay had to retrace their steps to Elim-Elath, and thus skirt the eastern border of Edom. The word does not mean an objectless moving from place to place, or an unreasoning straying in a region from which the strayers were presumably unable to find their way out.

The Psalmist uses (Ps. cvii, 4, 40) a word, *Tah-yah*, which has been תעה rendered *wander*, but when it is pointed out that Abraham employs the same word when telling Abimelech that God caused him to "*wander*" from his father's house (Gen. xx, 13), it is apparent that it simply means to journey in search of an, as yet, undiscovered home.

Those who quitted Egypt, save the rising generation, never entered the Land of Promise, and as the time necessary for proceeding from that country to the land of Gilead would, under ordinary circumstances, have been but a few weeks, the conception arose in later times that the forty years were passed in "wandering"—that is, in straying—from place to place in the desert. But there was nothing in the records taken with them by the Israelites to the land of their settlement to justify that conclusion. They had passed "forty years" in the *desert*, but so they termed the entire region which intervened between Egypt and their future home, and necessarily including Kadesh with the Mount of God. The greater portion of the time was passed at Kadesh, but this fact (Judges ii, 17) was lost sight of centuries afterwards, and the belief arose that the time passed in the desert was occupied in moving objectlessly about from one place to

another. The demonstration that the Israelites did not "wander" is surely more consonant with a belief in Divine guidance than the common assumption that they acted like men who had lost their way.

It will be seen that the key to the solution of the most interesting and ancient of historical enigmas lies in the identification of Elim, the place of palm-trees, with Elath or Eloth, equally noted for its palm-trees and its wells down to the present day. The Coptic monks who settled in the Sinaitic peninsula in the third and fourth centuries chose to fancy that one of its mountains must have been the Mount of God. There were none to deny the pretensions thus set up, and in the course of centuries they became so firmly established that no one ever dreamt of calling them in question. Hence inquirers into the route taken by the Israelites have always started from the postulate that the released captives must have entered the peninsula; hence the necessity for placing Elim somewhere on the shore of the Gulf of Suez, though confessedly no place corresponds to it, and hence the final necessity of taking the Israelites from one of the so-called Sinaitic mountains up to the table-land of the Tih, and leaving them there without any attempt to trace their further progress until at some distant period they are found at Mount Hor. Let this entirely unsupported assumption of the Coptic monks be discarded—an assumption which I have shown to be wholly at variance with every allusion to the locality of Sinai in the Biblical records, and with the opinions held on the same subject by Josephus, Eusebius, Jerome, and by the Crusaders—and the story, as told in the Mosaic records, becomes perfectly simple and intelligible. I further demonstrate conclusively that the western region of the Sinaitic peninsula close to the Gulf of Suez was occupied by the Egyptians at the time of the Exodus, and that the battle between the Israelites and the Amalekites recorded in Exodus xvii could not by any possibility have been fought in that region. The Amalekites were to be found in Edom, and in that region at a subsequent period the Israelites sustained a defeat at their hands (Numb. xiv, 45; Deut. i), and it was they who barred the route of the Israelites to the Promised Land (Numb. xiii, 2). Josephus constantly identifies the Amalekites with the Edomites.

The stations of the Egyptian Haj between Suez and Akabah, as given by Major Kitchener, correspond with the Biblical account of the journey of the Israelites across the desert to Elim-Elath-Akabah:—1st day, En Nawater, no water; 2nd day, Jebel Hosu, no water; 3rd day, Nakhl, good water; 4th day, Abu Muhammed, or Er Reis, bad salt water; 5th day, Ras en Nakb; 6th day, Akabah, good water. It will thus be seen that the three days' journey without water would take the Israelites to Nakhl; the next day's journey to Abu Muhammed, evidently a modern name, which I identify in my book under the name of Abiar or Bir Alaina with Marah and its bitter water, and from thence it was two days' journey to Akabah—the Ailah of the Romans, the Elana of the Greeks, and the Elim-Elath of the Hebrews.

I may add, in conclusion, that it is singularly confirmatory of the accuracy of my conclusion in placing Kibroth-hat-taavah, "the Graves of

Lust," in the Arabah between Elim-Akabah and Mount Hor—Sinai, that in the map of the lower Arabah, prepared under the direction of Major Kitchener, a marsh with the name Taavah is placed about a day's march from the head of the gulf. On the western side of the marsh are the remains of a Bedawin cemetery. It would be curious to ascertain whether the Bedawin selected so strange a place for a burial ground in consequence of any ancient tradition still clinging to it. At all events the designation remains unchanged after 3,000 years—Kibroth-hat-Taavah, "the cemetery of Tavaah."

J. Baker Greene.

A PUZZLE IN JOSEPHUS: TWO GADARAS OR ONE?

Ever since I prepared my work on "Galilee in the time of Christ," which first appeared early in 1874, I have felt that there was a difficulty with regard to a certain passage in Josephus, and its solution which I subsequently arrived at may be useful to those who have not reached independently a similar result. These notes might have been published long ago, except that I hesitated to do so on the ground that I did not feel competent to criticise so celebrated an editor of Josephus as Dindorf. The difficulty to which I refer will be best represented by quoting two passages both of which are from the "History of the Jewish War."

1. "Vespasian having arrived before the city of Gadara, carried it on the first assault, having come upon it while it was destitute of an effective force. On entering the town he put to death without distinction all from youth upward, the Romans showing compassion to none of adult age, as well from hatred to the nation as in recollection of the outrages committed against Cestius. The city itself he reduced to ashes, all the hamlets and small towns around sharing its fate." (3 "Wars," vii, 1.)

2. Vespasian "broke up his encampment" at Cesarea-on-the-sea that he might proceed to Jerusalem and finish the war, but deemed it "necessary previously to reduce what remained in his way, that no external impediment might interfere with his operations. Accordingly he marched on Gadara, the capital of Perea, a place of some strength, which he entered on the 4th of the month Dystrus," corresponding to the 24th of February. No battle took place here, for by a preconcerted plan that portion of the inhabitants who were disposed for peace opened the gates secretly and welcomed him to the city, while those who were for war fled, and their pursuit led at last to the engagement before Beth Ennabrin, and to the slaughter on the east bank of the Jordan opposite Jericho. Vespasian merely placed a garrison in Gadara, and withdrew again with a large part of his army to Cesarea-on-the-sea. (4 "Wars," vii, 3, 4.)

It is commonly supposed that the Gadara referred to in these two

passages was one and the same place, namely, the town east of the Jordan well known at present as Um Keis. There are, however, good reasons for supposing that this cannot possibly be true.

It will be noticed that in the first passage, Gadara, which is called a "city," was reduced to ashes, and its inhabitants were slaughtered; the date of this event was the spring of the year A.D. 67.

The date of the event recorded in the second passage was the spring of the year A.D. 68; in fact, there was hardly an interval of twelve months between the two. In this passage Gadara is a strong city, with walls, and with a numerous population that was divided into two powerful factions bitterly opposed to each other.

There is thus a decided contrast between the circumstances of the place as stated in the first passage, when compared with those that are mentioned in the second passage, which leads to the conviction that two distinct places are meant.

By glancing at the events which led up to the taking of Gadara, as mentioned in the first passage quoted, we find that Vespasian, after having collected his forces at Ptolemais early in the spring of the year A.D. 67 (3 "Wars," vii, 1), moved forward with the purpose of invading Galilee (*ibid.*, vi, 2), and, apparently with his entire army, reached the frontiers of that province (*ibid.*, vi, 3). His position can be indicated approximately from the circumstance that a Jewish force encamped at a town called Garis, not far from Sepphoris, fled when they heard that the Romans were approaching and were "on the point of attacking them" (*ibid.*, vi, 3).

Vespasian's march must have been in an easterly or rather in a south-easterly direction from Ptolemais. Going in this direction he reached the frontiers of Galilee (3 "Wars," vi, 3). It was then and there, without any time having intervened, and without any further march having been made, that he carried the city of Gadara by assault (3 "Wars," vii, 1).

Hearing that Josephus and the Jews had rallied in Jotapata, Vespasian ordered a road to be made through the rough country lying between his camp (at Gadara) and that place, when he moved thither his whole force, the time occupied in making the march being an entire day, and, it is necessary to mention, no more than that (3 "Wars," vii, 3, 4).

Vespasian was in an enemy's country, and it was necessary for him to advance with the utmost caution. To have taken his army to Gadara east of the Jordan, would have been to have taken it through the heart of a hostile country several days' march from Ptolemais, his proper base of operations and supplies, past Tarichea, a powerful city of the enemy, and where subsequently to secure it a great battle was fought, and it is unreasonable to suppose that even to strike his foes with terror he would have attempted such a rash move as all this would imply.

When Vespasian captured Gadara east of the Jordan there is, in the record, no hint that the place had been captured by him before.

Neither is there in the record any hint that the place had been rebuilt, or that it had revolted, both of which must have been true had Vespasian captured it twice within the space of twelve months.

The people of the place which Vespasian took were hostile to him, and hence they were destroyed; while in Gadara east of the Jordan there was such a large party in his favour that he was admitted without a struggle.

If Gadara east of the Jordan is meant, Vespasian on his return must have marched his army in one day from this point to Jotapata, a thing which is simply impossible.

We conclude that whatever place may be referred to in the passage quoted from 3 "Wars," vii, 1 it is certain that Gadara, now known as Um Keis, cannot be meant; on the contrary, that place was on or near the frontiers of Galilee at a point east or south-east of Ptolemais, and at a distance of an ordinary day's march from Jotapata, now known as *Jefat*, situated half-way between Ptolemais and Tiberias.

Gadara or Gabara?

We come now to consider what should be the proper reading in the text of Josephus in 3 "Wars," vii, 1.

In the "Life of Josephus" we find a city in Galilee named Gabara frequently mentioned as playing an important part in the events of those times, but which is never once spoken of in the history of the war; notice must be taken of some of the passages where this name occurs.

Gabara, Tiberias, and Sepphoris are referred to as "the three largest cities in Galilee" (1 "Life," xxv), and that they were so is confirmed by the fact that they were called upon equally to furnish their respective complements of troops (chap. xl). Gabara was friendly to John of Gischala, and joined his party; hence it was inimical to Josephus and desired his destruction (chaps. xxv, xlv).

While Josephus was at Chabolo watching the Romans under Placidus, Jonathan, accompanied by others, arrived from Jerusalem and summoned him to appear before them at Xaloth (chap. xliv). This Josephus refused to do on the plea that he could not leave Chabolo defenceless. Jonathan wrote again and demanded that Josephus come to him at Gobaroth, which is called a "village" (chap. xlv), while he himself, accompanied by his party, goes thence to Japha, Sepphoris, Asochis, and at last reaches Gabara. Meantime Josephus went to Jotapata, "forty furlongs distant" from Chabolo, or from his camp near that place. In his reply to Jonathan, Josephus declines to go either to Gabara or to Gichala, but to any other of the two hundred and four cities and villages of Galilee he was willing to go; and hence it is clear, both from this statement and from his subsequent conduct, that he did not decline to go to Gabaroth.

Having placed guards on the road leading from Gabara to Galilee he repaired to Gabaroth, which he reached in the fifth hour of the day, having left Jotapata in the morning. I give these details respecting distances because I consider them valuable helps in our efforts to identify the localities mentioned (chaps. xlvi, xlvii). In front of Gabaroth, which is again called a "village," was a plain where the party of Josephus were assembled. After some deliberation Josephus determines to advance

"against the deputies," meaning Jonathan and his friends. The latter heard of his approach, and withdrew to a kind of citadel, where they hoped to entrap Josephus upon his arrival.

From details given in chap. xlviii it is certain that Gabara and Gabaroth were two distinct places, one being always called a "city," and the other never called a city but a "village"—situated, however, in close proximity to each other, and which have been considered as one and the same place.

Omitting the details of what happened at Gabaroth, Josephus in the end, to avoid a conflict, mounted his horse, and directing his party to follow him, rode to Sogana, distant twenty furlongs from Gabara (chap. li).

We have said enough to show that in the very region where we should expect to find the "city" Gadara mentioned in 3 "Wars," vii, 1, we find the "city" Gabara brought forward in the record in the most conspicuous manner, and we do not hesitate, therefore, to change the reading in this passage from Gadara to Gabara.

As Gabara, Tiberias, and Sepphoris are mentioned together in chap. xxv, and again in chap. xl, it is probable that the same group is meant in chap. xv, where Josephus says, "I took Sepphoris twice, Tiberias four times, and Gadara once." The reading Gadara here must be changed to Gabara.

To sum up what I have said it appears—

1. That the place referred to in 3 "Wars," vii, 1, as Gadara cannot be the place now known as Um Keis ;
2. That the reading in this passage should be Gabara, and not Gadara ;
3. And that Gabara and Gabaroth were two distinct places.

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NOTES FROM THE APRIL *QUARTERLY STATEMENT*.

MR. OLIPHANT'S interesting paper has, unfortunately, suffered by his absence from England, which leads to many misprints remaining uncorrected. Of these the most important are Mukkraka for Mahrakah ("place of burning"), Tsjin for Ijzim, Dahlieh for Dâlieh, and an error of the omission of the 'Ain in the Arabic word Kal'ah. The remains described by Mr. Oliphant are similar to the various Byzantine fragments which occur again and again in the "Memoirs," but he has been able to confirm in a very remarkable manner my discovery of a synagogue at Semmâka by the recovery of the seven-branched candlestick over a tomb door which I missed in 1873.

I am also glad to be supported by Mr. Tomkins with respect to Kanana. As to the ruin Râbûd to which he refers (p. 58), the suggestion

seems to me very possible ; but Tell 'Arâd is hardly in the hills, as Mr. Tomkins seems to say, being in an open plateau.

As regards Mr. Birch's papers it is not necessary for me to say much. If he attaches any value to the size of Sarum, he should measure its area on the Ordnance Survey map. I may note, however, that Dr. Schliemann in Troja gives us a city of Priam of 40 acres, and a later Ilion of about 100 acres. Surely Troy was a less important place than Jerusalem.

The hypothetical second aqueduct from the Virgin's Fountain to Siloam has left no known traces of its existence. A curious point in Mr. Birch's plan is that he apparently joins it on to an existing channel in such a way as to show that the water must run just the opposite way to that in the real existing water channel, which leads *from* the Pool of Siloam to the gardens in the Kedron.

I believe that the fact which has originated the idea of a second aqueduct is that a short tunnel has been found in the rock just north of the dam which closes the old Pool below the modern Pool of Siloam. This tunnel I have seen and entered. Its lowest part is considerably higher than any part of the Siloam tunnel, and it runs rapidly up hill. If it was ever more than a drain it was probably the end of the surface channels which existed on Ophel in 1872, but which are now destroyed in quarrying. The level precludes the idea that it can have any connection with the Virgin's Fountain.

C. R. C.

NOTES FROM THE JULY *QUARTERLY STATEMENT.*

Prof. Hull's Paper.—I am glad to find the general views suggested in "Tent Work in Palestine," and in my paper on the Exodus (1883), receive confirmation by a skilled geologist. I may note that the level of the sandstone east of the Dead Sea was determined by us in 1882 over a considerable distance, which, together with other observations, will be found noted in my "Memoirs."

Dolmen in Bashan.—This is described in the last *Quarterly Statement* as a large example, but neither in height nor in size of capstone does it at all approach the finest Moabite examples.

Prof. Sayce on Jerusalem.—I had not gathered from the sketch that the Temple-hill was supposed to be occupied by a town in Solomon's time, nor do I know any passage in ancient writings which would support such a theory.

Kadesh.—It should not be forgotten that there are objections which have seemed to many fatal to the identification of Kadesh Barnea at 'Ain Kades, which Dr. Trumbull appears to consider proven. I have read Dr. Clay Trumbull's book carefully ; it contains much valuable information, but as he finds himself obliged to move Mount Hor and Mount Seir

from east to west of the Arabah, it is clear that he sees the difficulty arising from 'Ain Kades being so far west.

Herr Schick's Paper.—In some details this agrees with the views of General Gordon; in others it reproduces a former paper by the same writer. There are several points in the paper which seem to require reconsideration. Why must the Stone of Bohan be "white striped?" A confusion seems here to have occurred. Why does Bueimât mean "door of death" (Bâb el Maut)? According to the Arabs it means "little owls." Why should an ordinary boundary cairn of the Arabs be "the heap of stones the Israelites placed over Achan?" The cairn is called Esh Shemalîyeh, "northern," which has nothing to do with Achan. The idea that Beth Samys, Shemesh, and Som'a are the same place was originated by General Gordon, but contains two errors. First, Beth Samys is well known to be the present Hizmeh, the Hebrew Azmaveth; secondly, Som'a ("the heap," spelt with an *'Ain*) has no connection at all with either Shemesh or Samys. There are several unfortunate misprints in this part of the paper.

Why is En Rogel placed at Bir Eyûb? This is not the general belief of students. Why is Lifta "with good reason" identified with Nephtoah? There are many objections to such a view, philological and topographical. Ephron and Ephraim are certainly not the same in Hebrew, the first having a guttural Ain. The name Kubbet Rahil I could never recover at Herr Schick's site. Ikbâla is a Crusading convent, and, as far as I could find, nothing else.

Mr. Birch on Acra.—As regards this paper I have only a few words to say. My statement as to Mr. Fergusson's view regarding Akra was duly verified by reference to the map which accompanies his account of Ancient Jerusalem, published about 1847.

Mr. Birch is, no doubt, aware that many authorities consider that two Akras are intended in various passages, one being the hill of the lower city, the other the Antonia fort; and as Akra is only a Greek term meaning apparently a fortress (as in the Acropolis of Athens), there seems no reason why the Hebrew Baris (Birah) may not be in some cases so translated. The LXX reads Akra for Millo. As regards the tomb of Uzziah, there is more than one difficulty in reconciling the accounts in Kings and Chronicles, but my argument is that the "City of David" was another name for Jerusalem generally. When Ophel came to be inhabited the name may be supposed to have included Ophel, but this is quite a different matter to confining ancient Jerusalem to the insignificant space south of the Temple. Mr. Birch himself quotes passages from the LXX which agree entirely with the supposition that the terms Zion and City of David are synonymous with Jerusalem generally.

As regards the note from the Tosiphta quoted by Mr. Birch, I think it is clear from the context that R. Akiba was not referring to a known fact, but constructing a theory. If bones had remained in the tombs under the city, Jerusalem would have been impure. "Hence it is shown," argues the Rabbi, that some underground passage must have existed whereby the

tombs were cleared. R. Akiba was supporting his unsound theory as to purity by a bold invention as to underground passages, being forced to admit that the Royal Tomb was (as all men knew) inside the city. This kind of argument is not yet extinct, but R. Akiba's passage had no more existence in fact than Mr. Birch's second Siloam aqueduct. As to the long passage from Gibeon, I have only to say that I do not think the authors of the Pascal Chronicle knew more about the Tomb of David than we do. I do not see how Mr. Birch has proved my references to be unverified, although Mr. Fergusson's view as to Akra are not the same in his various books on Jerusalem.

C. R. C.

EMMAUS.

I.

The identification of Urtâs with Emmaus seems to be accepted in some quarters as "proved beyond cavil or doubt" (*Quarterly Statement*, 1883, p. 62). At the risk of being classed among "cavillers," I venture to give reasons for entirely dissenting from the proposed identification. In *Quarterly Statement*, 1879, p. 105, I endeavoured fairly to summarise the evidence for the several claimants to represent Emmaus. There is given there a quotation from Lightfoot, who proposed to identify Etham with Emmaus, not only anticipating Mrs. Finn's proposal, but giving another, and I think more plausible, support for it than she has done. My objections are—

(1) There is no evidence to show that "the bath" Mrs. Finn writes of is of the age she assumes—that it was old enough, not to say important enough, to give its name to a place known to Luke and Josephus.

(2) The existence of a bath, or baths, in a valley down which flows abundance of water is not, *primâ facie*, a thing so special as to explain the distinctive name of a village. If every place is to be recognised as a possible "Emmaus" where the name "Hammâm" is found, we shall have plenty to choose from. Is this different from the place noted in "Memoirs," iii, p. 94, thus?—"Hummâm Suleimân—an old pool, now filled up, with fine masonry walls, and some pillar shafts lying in it. It is in the valley below Urtâs." "An aqueduct from it is said by the natives to have supplied Birket el Hummâm at Jebel Fureidis." Here are two spots at which the name occurs in this same valley. And see the "Memoirs" *passim*.

(3) Etham has transmitted its name from the days of Rehoboam (2 Chron. xi, 6), and is still known as 'Ain 'Atan. What evidence is there that it ever was "superseded after the days of Solomon by that of 'Paradise?'" (*Quarterly Statement*, 1883, p. 58.) If the evidence of the natives is of value on the point, the name is still "Hummâm Suleimân," and with Urtâs preserves the memory of Solomon's gardens and pools uninterruptedly.

(4) Josephus knew the site of Solomon's gardens (8 "Ant.," vii, 3), and tells us "they were at Etham about 50 furlongs distant from Jerusalem."

He knew also the position of the Roman colony, of which he writes, "it is called Emmaus, and is distant from Jerusalem 60 furlongs" (7 "Bell. Jud.," vi, 6). Clearly he knew nothing of the name Etham having been superseded, and he did not suppose it the same as Emmaus, or he would not have given the two names thus, at different distances from Jerusalem. His position of Emmaus is the same as Luke's, showing it to be correctly given. His position of Etham is also correctly given, as measurement shows.

(5) Manifestly the Emmaus of Josephus and Luke was a well-known place—"a village." Jerome located the Emmaus of Luke at Nicopolis, though surely one who lived so long at Bethlehem would have heard of the name there, had it been known. No traces of villages such as tombs, &c., seem to have been found. Meshullam, who lived so long there apparently, never heard the name as that of a village. Urtâs refers, it is generally agreed, to the old gardens of Solomon, and is not, as, *e.g.*, Kolonieh, of later origin superseding Emmaus ; while nothing remains, so far as has yet been shown, to prove that the place ever was other than a garden, with "pools" in it, and that there ever was a change of its name to Emmaus, and then a reversion to its earlier name. Urtâs, Hummâm Suleimân, 'Ain Atan, are against the suggestion, and agree in one ancient tradition.

(6) What position would be selected for a Roman colony, it would be venturesome to attempt to decide. It is not likely that 800 disbanded soldiers would be *very* modest in their claims n a land conquered and depopulated. The little garden of Urtâs would certainly suffice for but few of them. Moreover, Josephus, in the same chapter in which he tells of the planting of the colony at "a place called Emmaus, 60 furlongs from Jerusalem," tells us of the capture of "that citadel which was in Herodium." Herodium is 60 furlongs from Jerusalem ; if he meant Herodium in both places why did he not say so, instead of introducing the name and distance from Jerusalem of another "place"—a village too (Luke), not a *walled* citadel ?

(7) As regards El Kubeibeh, on the other hand, it is found to be the correct distance from Jerusalem. The Crusaders said they found the name of Emmaus there. They knew of Emmaus Nicopolis, and its acceptance by Eusebius as the Emmaus of Luke, and had no occasion to *invent* the name. The name of a colony clings to the place. Three miles along the Roman road, passing through El Kubeibeh, there is Wâdy el Hŭmmâm, and down that valley is Khurbet el Hŭmmâm, where they could have planted their holy place had they not found the name where they said they did. Two Roman roads cross just there ; while the story of the land from the days of Joshua to that of the Maccabees, demonstrated the value of holding that position—communicating, moreover, as it did, with the sea and the garrison of Cæsarea.

As regards Kurbet el Khamasa, a statement of its claims, to which nothing can be added, is given in "Memoirs," iii, p. 36. Between it and El Kubeibeh the case seems still to lie.

ARCH. HENDERSON.

II.

ALL readers of the *Quarterly Statement* must have been interested by the account of Mrs. Finn's researches in the Valley of Urtas (January Number, 1883); but I doubt whether many were convinced by her arguments in favour of identifying that place with Emmaus. As, however, Mr. Mearns (January Number, 1884) refers to a paper of mine July, 1881) on the same subject, and supposes that I have probably given up my own view and adopted Mrs. Finn's, I shall be much obliged by your allowing me to point out why Mrs. Finn's argument appears to me inconclusive, and to state a little more in detail my reasons for adhering to the opinion that connects St. Luke's Emmaus with Kubeibet, and with the Wâdy Buwai stretching down to Kolonieh.

Mrs. Finn's case rests on a mistaken inference from the words of Josephus about the Galilee Emmaus. He interprets the name to mean, *pro hac viæ*, Hotwells ("Bell.," iv, 1, 3). But he certainly does not intend it to be understood that the name Emmaus always has that meaning. The same Hebrew name might easily have different Greek equivalents, and *vice versâ*. Josephus mentions two other places called by the same name, but does not in either case connect the name with Hamath, or Khamath (Hot Spring); and it is certain, as a matter of fact, that in one at least of those places (Nicopolis) there is no trace of there ever having been a hot spring.

This particular question is indeed no new one. Lightfoot long ago pointed out that although the Galilee Emmaus derived its name from its hot springs, the Gospel Emmaus could not do so, because the Arabic, Syriac, and Persian translations of St. Luke begin the word with an ע, and the Talmudists write the Nicopolis Emmaus אמאוס. He concludes: "There were at Emmaus [Nicopolis] noted waters, but we can hardly suppose that they were warm, if we consider the usual writing of the word among the Talmudists."[1] And I may add that this argument is strengthened by the recollection that the Jerusalem Talmud, and probably the Mishna, were written at Tiberias, by men therefore well acquainted with the hot springs of Hamath.[2]

There is therefore no ground for the assumption with which Mrs. Finn sets out, that the interpretation given by Josephus to the Galilee Emmaus is to be extended, or has any application to any other Emmaus. In that particular instance Ammaus represented חַמַּת. In a second case it represented, as we have seen, אמאוס. In a third it may with equal propriety, and probably does, represent המוצה.

But how does Mrs. Finn apply her inference, assuming it to be correct, that every Emmaus must be a Hamath? She knows that there are no hot springs at Urtas, or at any suitable distance from Jerusalem.

[1] Lightfoot, ii, p. 371; *cf. ibid.*, p. 42.
[2] *Ibid.*, p. 72.

She does not suggest (as Mr. Mearns does) that in a volcanic country hot springs may have changed to cold. But noting that the Arabic Hammâm stands for artificial hot baths, as well as for hot springs, she argues that Emmaus may have been employed with a like latitude; so she asked herself, "Were any baths to be found at a suitable distance?" If so, there would be Emmaus. The copious fountain in the Urtas Valley attracted her attention, as being sufficient to supply baths. The recollection of once visible traces of baths still existed in the neighbourhood: search is made: remains of extensive and luxurious baths are brought to light, dating very probably from the days of Herod the Great: and Mrs. Finn concludes that she has found Emmaus.

But with all deference I submit that just as every Emmaus was not a Hamath, or Hot Spring, so every discovery of Hammâm, or Baths, is not the discovery of an Emmaus. That there were Hammâm at Urtas Mrs. Finn has discovered as a veritable and interesting fact; and, as a matter of course, *these Hammâm were called Hammâm.* But that the village itself, or the district, was ever known by the name of Emmaus, or even of Hammâm, Mrs. Finn has not advanced a fragment of evidence. Nay, she has not shown that any village or district whatever has ever been called Hammâm because artificial baths were erected there. Of course baths cannot but be called baths, but every place that has baths is not necessarily called Bath. There is nothing whatever in the fact that baths were found at Urtas, and that they were suspected to exist there and were called (as they could not but be) Hammâm, to prove that the *valley* or *village* ever bore the name of Hammâm, or of Emmaus.

Mrs. Finn endeavours to fortify her claim for Urtas as the Emmaus colony of Josephus, by suggesting that it was chosen by Vespasian with a view to keeping a watch over the surviving remnant of Jewish fanaticism at the fortress of Masada. But the colonisation referred to was in no sense what she calls it, *military.* It was a *grant of land* to 800 *disbanded* veterans, for their residence and possession (εἰς κατοίκησιν).

Thus the reasoning in favour of Urtas crumbles away step by step. While against the theory there are one or two matters certainly worthy of consideration, which have not been noticed.

1. Is it probable that the splendid and "Royal" baths which Mrs. Finn describes, and which, according to her theory, had given a new name to the valley, a name under which the valley was familiarly known in the days of St. Luke and of Josephus, should have been so completely obliterated and the new name so entirely forgotten by the days of St. Jerome—that he, living close by, should have entirely overlooked it, and should have ascribed to Nicopolis, as he did, the honour of being St. Luke's Emmaus?

2. Is it probable that Josephus, alluding to a place so notable, and so near *Bethlehem*, should have called it "a district 60 furlongs from Jerusalem?" And if he did so, is it probable that St. Luke also, who in the second chapter of his history had illumined the famous city of David with a new and imperishable glory, should in his last chapter have spoken of a village within a mile and a half of that city, as "60 furlongs

from Jerusalem," and not in the far more natural way, as "a village near Bethlehem?" No writer would speak of Clewer as a "village some twenty miles from London," when he could give the far more pointed description "close to Windsor."

As I observe the fragile nature of Mrs. Finn's arguments, and these *à priori* improbabilities in her theory, I feel that, while all must have thanked her for her valuable contribution to the discussion (and none more so than myself, who recollect a very pleasant evening spent at her house at Jerusalem some thirty years ago), the careful searchers for Emmaus will not subscribe to the title of her paper as "*Emmaus Identified.*"

Let me now state my reasons for believing that the district (*χωρίον*) of Emmaus which Josephus says was given by Vespasian to 800 disbanded veterans, lay along the valley that has Kolonieh at its southern extremity, and that the village (*κώμη*) spoken of by St. Luke was near the head of that valley and reaching on to Kubeibeh.

In Joshua xviii, 26, we read of a certain Mozah; but in Hebrew it reads, with the article, הַמֹּצָה (Ham-Môtsah), and it is represented in the LXX by Ἀμώσα (in Codex A., Ἀμώσα), and in the Vulgate by Amôsa. This Môtsah is named in the connection with Mispeh, Rekem, and Chephira, or Haccephirah. And in the locality where the acknowledged sites of these places are found there is still existing a ruin called Khan Beit Mizza; and the interchange of Yod and Vaw is so frequent that there is good ground for thinking that Mizza or Mitsa represents the ancient Mozeh, Môtsah, or Ham-Môtsah. In other words, this ruin, Mizza, represents more or less closely a place called in the LXX Ἀμώσα, in the Vulgate Amôsa.

Is anything further known about Mozeh? The Talmud speaks of a certain מוצה, spelt as Joshua spells it. It gave its name to a valley "near Jerusalem" and "below Jerusalem," to which the Jews resorted on the first day of the Feast of Tabernacles to provide themselves with the two willow branches which each worshipper was expected to carry on that occasion, and for some reason or other it bore the name of Kolonieh. (Smith's "Dic. of Bib., S.V.," Mozah, Cespari, § 191; Lightfoot, vol. i, 976.) But the ruin Beit Mizza, which, as we have seen, probably represents the ancient Amosa, is but a short distance from the only place anywhere near Jerusalem which now bears the name of Kolonieh. There is therefore good reason for regarding Beit Mizza as representing the Talmudic Mozah, and if so, the Mozah of Joshua and of the Talmud are the same. In confirmation of this it may be observed that Furst (without reference to the History) derives the name from מוצה to suck, and interprets it "*the place of reeds.*" Certainly willow might well be looked for in "the place of reeds."

We have now then arrived at a further step in our argument. We have found that the Amôsa of Joshua became a colony. No one can fail, however, to see how near the name Ἀμωσα, or Amôsa, comes to Ἀμμαους, or Ammaus. And when we read in Josephus that Vespasian gave a *district*

(χωείον) to 800 disbanded veterans for their possession and residence (εἰς κατοίκησιν), and when he further gives this district the name of Ἀμμαους, it is impossible to avoid the conjecture that Ἀμμαους is more or less closely connected with the ancient Ἀμώσα, or Motzah, and with the Kolonieh of the Talmud.

The difficulty now presents itself that Josephus says Ammaus is 60 furlongs from Jerusalem, whereas Kolonieh is about 36. But a little consideration suggests that as Josephus speaks of a *district* (χωρίον) to be divided among 800 men for a permanent residence, one end of this district may have abutted on the great Roman road to Joppa (at Kolonieh), and the other end may have been three or four miles further from Jerusalem, and altogether away from that road. And while the lower end of the valley would form the nucleus of any growing population, and would soon develop into a new town, and swallow up all recollection of a former state of things, the original village, which gave its name perhaps to the valley, may have been, *when the colony was first placed there*, at the distance named by Josephus. Few things are more observable than such a shifting of population and names, when villages and hamlets are changed into towns by some wave of circumstance.

Once more: If Môtsah, Amôsa, Ammaus, was the name of a district, the ruin Beit Mizza may be the southernmost trace of the old name, and the original village (κώμη) may have been, in the time of St. Luke, at the head of the valley, and extending beyond it. Here the Crusading tradition comes to our aid. For though that tradition may have no authority as such, yet the fact that it would have been more natural for the Crusaders to place Emmaus at Kuriah Enab on the Jaffa road, and the fact that the tradition harmonises with and helps to reconcile the other data, give it some real weight. According to this tradition Kubeibeh is the village Emmaus. It may have been the furthest extremity of the village; if so, the two disciples on that famous Easter Day would descend into "the valley near Jerusalem" just at the point over which Beit Mizza now stands, would pursue its course northward and westward, and as they reached its head would be at the end, or near the end, of their memorable journey.

One conclusion is indisputable, that no other location of St. Luke's Emmaus could by any possibility combine so many rays of light as converge upon the Wâdy Buwai from Joshua, the Talmud, Josephus, existing names, and Crusading tradition.

R. F. Hutchinson.

THE SITE OF ZION.

Another perusal of Captain Conder's article on this subject has led me to think that he has altogether misapprehended my views about the size and position of the pre-exilic Jerusalem, and has further overlooked the necessary inferences to be drawn from the Siloam Inscription. At the

risk, therefore, of threshing the old corn over again, I write a few lines, which will, at any rate, I hope, make my own meaning clear.

The Siloam tunnel is cut through the south-eastern hill of modern Jerusalem, the so-called Ophel, and it is towards the lower or south-western end of it that the famous inscription is engraved. I have endeavoured to show that the tunnel is the same as that referred to by Isaiah (viii, 6), in the reign of Ahaz, and that the conduit made by Hezekiah was the second tunnel, which led from the Upper Pool of Siloam, or the Lower Gihon, to the Lower Pool of Siloam. Other scholars believe that the Siloam tunnel itself is the one that was made by Hezekiah. Whether they or I are right is of no consequence for the present argument: in either case we now know the exact position of the hill through which Hezekiah's aqueduct was excavated. It is the so-called Ophel, or south-eastern hill.

Now we have two accounts in the Bible of the construction of this aqueduct. One is in 2 Kings xx, 20, which does not state where it was precisely that it was made; the other is in 2 Chron. xxxii, 30, which tells us that Hezekiah "directed the waters of the upper Gihon—or Virgin's Spring—to the west side of the city of David." Consequently, the tunnel which starts from the eastern slope of the south-eastern hill, and ends on its western slope, must run through the site on which the city of David stood, and this site must be the south-eastern hill. I see no escape from this conclusion. Furthermore, we have the explicit statement in 2 Samuel v, 7, that the city of David was built on Zion. The hill of Zion, therefore, was the south-eastern hill.

So much for Captain Conder's theory of the position of Zion. The Siloam Inscription has virtually settled the dispute. It also settles the question as to whether the hill of Zion extended across the deep Tyropœon valley—a rather remarkable feat one would have imagined for a single hill. Hezekiah's conduit ended on the western side of the city of David, while the two Pools of Siloam are on the western slope of the south-eastern hill; accordingly, the city of David, and the hill on which it stood, could not have extended across the gorge to the west of it. The Tyropœon Valley, therefore, must be the valley of the sons of Hinnom, into which the western gates of Zion opened.

When this conclusion is reached, it follows, as I have pointed out, that Ophel is only the northern portion of the south-eastern hill. In my former paper I blundered over the account given by the chronicler (2 Chron. xxxiii, 14) of the wall built by Manasseh, owing to my not perceiving that the Gihon he mentions was the Lower Gihon, or Pool of Siloam. Manasseh began his wall "outside the city of David," and to the west of the Pool of Siloam, but also somewhat to the south of it, at the point where the "gorge" of the sons of Hinnom met the *nakhal*, or valley of the Kidron. From this point it ran northwards as far as the fish-gate, where it turned to the east and "compassed about Ophel." I suspect that "the broad wall" spoken of by Nehemiah (iii, 8; xii, 38) formed part of it.

Pre-exilic Jerusalem, accordingly, consisted of two hills only: the south-

eastern, or Zion, the northern "excrescence" of which was termed Ophel—a name which implies an "excrescence" on another hill, and not the whole hill itself—and Mount Moriah, on which the Jebusite city stood. Until it was levelled by Simon the Hasmonean, the highest point of Zion dominated Moriah, which will explain why the Jebusite redoubt, or protecting fortress, was built here, and also why David erected here his palace and barracks. From the time of Solomon onwards the south-eastern part of Moriah was occupied by the palace and temple where the court officials and guards as well as the priests lived; the rest of Moriah continued to be the seat of the Jebusites and foreign merchants who filled the bazaars on the north and west.

Now it is clear to me that Captain Conder, with his mind full of the Temple area of the Herodian epoch, has never realised that it was this amalgamation of the old Jebusite town and its Jewish suburb which I meant by pre-exilic Jerusalem. Otherwise he would never have imagined that I confined "the capital of Syria in David's time" to an area of only 15 acres. He himself tells us (in his "Handbook to the Bible") that the building space on Moriah amounted to 35 acres, and this has to be added to the 15 acres before we have an approximate measure of the size of Solomon's city. My impression is that the Jewish suburb itself, though we are told only 15 acres in extent, was no smaller than the Hebron which was for seven years the capital of David. The Jerusalem of David's later years would not be much inferior in size to the rival capital of Ammon.

Captain Conder thinks that his views as to the size of pre-exilic Jerusalem are supported by the Book of Nehemiah, where it is said (vii, 4) that "the city was large and great, but the people were few therein." Unfortunately, however, he has not read on to the next chapter. Had he done so he would have seen what Nehemiah's statement really means. Here (viii, 1) we learn that not only the inhabitants of Jerusalem itself, but also of the country round about, "gathered themselves together as one man into the square that was before the water-gate," and there listened to Ezra, while he read the Law. It was no wonder, therefore, that the city seemed "large and great" to them. Captain Conder has forgotten the infinite capacities of Orientals for packing themselves together in a small space: had he slept with the fellahin of Palestine as often as I have done, I think he would have understood how it is managed.

A. H. Sayce.

"AS THOU COMEST UNTO ZOAR."

Every new discovery in Bible lands tends to throw new light on the Bible text; and every fresh illumination of the Bible text in the light of later Biblical research is almost sure to give added meaning, as well as added clearness, to both text and context. There is always a positive

gain in finding out just what was originally declared in the sacred Scriptures, however the recent disclosure may damage or destroy the venerable interpretation of centuries. A fresh illustration of this truth is furnished in the light thrown on various passages in the Pentateuch, by the now better understanding of the prominence attaching to the Great Wall of Egypt in the days of the Hebrew Exodus.

Take, for example, that passage in Genesis xiii, 10, which pictures the Jordan Valley, as it was in the days of Abraham and Lot: "And Lot lifted up his eyes, and beheld all the plain of Jordan, that it was well watered everywhere, before the Lord destroyed Sodom and Gomorrah, even as the garden of the Lord, like the land of Egypt, as thou comest unto Zoar." Why "Zoar," of the Jordan Valley region, should here be named in conjunction with "the land of Egypt," has long been a puzzle to the Commentators. A favourite mode of solving the difficulty has been by re-shaping the passage, so as to connect the approach to "Zoar" with "Sodom and Gomorrah" (see, *e.g.*, Vatablus, A. Lapide, Bochart, Poole, Houbigaut, Bush, *et al.*); but that is only a suggestion of what *might have been* a diluted meaning of the passage.

The Syriac version reads "Zoan" [of Lower Egypt] for "Zoar." That would make the sense clearer, if only the change could be justified. Modern discoveries in Egypt have, however, brought out an ancient name of a locality in that land, which comes nearer to "Zoar" than "Zoan;" namely: "Zar," or "Zar" (or Tar, or Tor, as it would be literally, since there is no "z" in the Egyptian). Already, several scholars have proposed the reading of "Zor" for "Zoar," in the passage referred to; but this leaves still unsettled the questions: Where was Zor in Egypt? and Why should Zor have such mention in the description of the Jordan Valley? It is to those questions that I now essay an answer.

Zor, or Zar, or Zal (in the plural Zaru or Zalu), was a designation, not of a city or town, but of the border-land of Eastern Lower Egypt, which of old was shielded by the Great Wall, stretching across that desert frontier from the Mediterranean to the Gulf of Suez. The word itself signifies the "strong place," the "fortified place," or, as it might be rendered, the "walled land." Brugsch, who has done so much in disclosing the history of ancient Egypt, says of the meaning of this word (although, by the way, he has been misled, by some of its applications, into the belief that its use was at times limited to a single city of the border region, instead of applying uniformly to the border region as a whole): "Zar . . . possesses the same signification as its Coptic derivation (ϩⲟϩ, ϩⲟⲗϩ, ϩⲱϩ, ϩⲱϩⲓ, ϩⲱϩⲉ, ϩⲱⲱϩⲉ), 'brave, strong, strength, a fortified place.' . . . It therefore follows that a country called Zar must signify a 'country fortified by forts for its defence.'" (See Brugsch's "Dict. Geog.," p. 997.)

References to this region Zor are frequent in the papyri, and on the sculptured monuments of ancient Egypt, all going to show its location

within the Great Wall, and its population as including the foreign residents of Egypt; such as the Hebrews in their land of "Goshen," and the Shasoo, or Bed'ween, in their border camping-ground, the "Succoth." The Great Wall itself is often called the "Khetamoo of Zar," the "Fortifications of the Strong Land." The region just westward of the Great Wall is designated on the list of Nomes at Philæ, as *Ta-m-Zaru*, the "Land of Zaru," or the "Land of the Fortifications." The Egyptian official in charge of that region is called *Mer-Khet-Zal*, "Superintendent of the Fortress of Zal;" and again, *Her-petoo*, "Head of the Foreigners." From this root Zor it is probable there comes Mazor as a designation of Lower Egypt, and again Mitzraim, the Two Egypts, Upper and Lower.

Zor was the garden land of Egypt. "The best of the land" was there in the days of Joseph (Gen. xlvii, 6), and so before and after. A graphic picture of it in the nineteenth dynasty, not far from the period of the Exodus, is given in an ancient Egyptian letter-writer's description of the treasures and attractive surroundings of one of its chief cities. The "Letter of Panbesa," as translated by Goodwin, is to be found in the "Records of the Past" (Vol. VI, pp. 11–16); but I quote from the freer and more pictorial rendering of Brugsch ("Hist. of Egypt," II, 100–102): "Nothing can compare with it in the Theban land and soil [in Upper Egypt]. . . . It is pleasant to live in. Its fields are full of good things, and life passes in constant plenty and abundance. Its canals are rich in fish, its lakes swarm with birds, its meadows are green with vegetables, there is no end of the lentils; melons with a taste like honey grow in the irrigated fields. Its barns are full of wheat and durra, and reach as high as heaven. Onions and sesame are in the enclosures, and the apple-tree blooms. The vine, the almond-tree, and the fig-tree grow in the gardens. . . . Plenty and abundance are perpetual in it. He rejoices who has settled there."

Here was a "garden of the Lord," an earthly paradise, in the eyes of those who were familiar with it. Abraham and Lot had been within its borders. The self-exiled Hebrews could never forget it as their old home. When they were out in the dreary wastes of the Sinaitic peninsula, their hearts went back after its luxurious abundance, and their lustful cry was: "We remember the fish, which we did eat in Egypt [in the land of Zor] freely; the cucumbers, and the melons, and the leeks, and the onions, and the garlic; but now our soul is dried away [we are famishing]: there is nothing at all, beside this manna, before our eyes [no other food to be seen]." The pictures of Zor are alike, whether sketched by Egyptian or by Hebrew pens.

Now if, as we may well suppose, the Book of Genesis was written by Moses (with the aid of whatsoever documents, from the days of Abraham or long earlier, were available to him) during the period of the wanderings, is it not every way natural to find him comparing the rich and tropical fertility of the lower Jordan Valley, which the Israelites did not yet know from personal observation, with the paradise of Zor in Lower Egypt, which was so familiar to them? What more effective comparison could he have chosen?

There are frequent glimpses in the Book of Genesis of the primary application of its ethnical teachings to those for whom it was originally prepared. This reference to Lot's choice would seem to be one of these. Moses is picturing Abraham and Lot on the bleak and rugged hillsides of Judah, looking down into the fertile valley of the Jordan, with its tempting display of unfading bloom and beauty. In making vivid his portraiture to the Israelites, his description is as though he had said, "That scene before the eyes of Lot was a rare one. The Jordan Valley is even now a lovely region. You may be tempted to think of it as only a slight improvement on these Negeb wâdies southward from it, with their scanty vegetation and their partial water supply; but it is quite another land from this, and in the days of Lot, before any portion of it was laid waste by the destruction of the Cities of the Plain, that valley was like the place of places in all the world of your knowledge. It was as well watered everywhere, and as fertile in consequence, as that earthly paradise which was your old home in Lower Egypt. It stretched out before the eyes of Lot, as the Egyptian Delta stretches out before those who enter Zor, through the desert gateways of the Great Wall, from the eastward."

That was a comparison which every Hebrew who had come out of Egypt could recognise and appreciate. And when it was added that, under those circumstances, "Lot chose him all the plain of Jordan," while Abraham moved Negebward, and was afterwards a dweller "between Kadesh and Shur," between the border limits of Canaan and Egypt, many of those longing Hebrews must have felt, that Lot showed more worldly wisdom than Abraham in his choosing. With this understanding of their ancestral history, the Israelites were prepared to consider more intelligently the recorded consequences of the choice of ease-loving Lot; as over against the choice of patient and trustful Abraham, with its assured results to his countless children in the faith.

The difference, in the Hebrew, between the words Zor (צוֹר) and Zo'ar (צוֹעַר) is that of a single letter (ע). The Rev. Henry George Tomkins (whose recently expressed desire for light on the location of Zor has immediately prompted me to this article) even goes so far as to say, that "the Hebrew word *exactly* suits" the Egyptian name; but, possibly, he had in mind the fact that an *Egyptian* writer, not having an exact equivalent of the Hebrew *'ayn*, would have written Zo'ar the same as Zor. A *Hebrew* writer, however, might have observed the distinction, had he chosen to do so. If is certainly fairer to suppose that a later copyist, more familiar with Zo'ar in the Jordan Valley than with Zor in Lower Egypt, erred in a change of the letter accordingly, than it would be to suppose that the whole passage was originally written so clumsily as to require its reconstruction, in order to make its sense plain, as so many commentators have argued.

A second reference to this locality, with the same error in transcription, would seem to be found in Deuteronomy xxxiv, 3, where the Land of Promise is described as it stretched out before the eyes of Moses

from the heights of Pisgah. "And the south, and the plain of the valley of Jericho, the city of palm-trees, unto Zoar," is the present reading. The apparent prominence here given to the small city of Zoar as a noteworthy boundary limit, is clearly not in keeping with the other statements of the inspired description; but when "Zor," or the eastern border of Lower Egypt, is recognised in this "Zoar," the consistency is manifest. "Moses went up from the plains of Moab unto the mountain of Nebo, to the top of Pisgah, that is over against Jericho. And the Lord showed him all the land of Gilead unto Dan." That took in Israel's territory east of the Jordan, at the right hand of Moses, as he stood, and marked the northerly limits of the Land on the western side. "And all Naphtali, and the land of Ephraim and Manassah." That swept downward through Galilee and Samaria. "And all the land of Judah unto the utmost sea." That included the territory of Judah and of the Philistines, in front of Moses, from the Dead Sea westerly to the Mediterranean. "And the south." That was the Negeb, from Beersheba to Kadesh-barnea, at his left hand. "And the plain of the valley of Jericho the city of palm-trees, unto Zoar;" or, more accurately, "And the circle of the valley of Jericho, the city of palm-trees, unto "Zor." That marked a sweep from the beautiful Jordan Valley, at his feet, far away south-westerly to the borders of Lower Egypt, the limits of the Land of Promise in that direction. Is not the reasonableness of this rendering obvious?

It may be mentioned just here, that a chief difficulty in the way of identifying Zoar in its suggested site near the southern end of the Dead Sea, has been the fact that that point was not visible to Abraham and Lot on the one side of the Jordan, nor to Moses on the other side, from their summits of observation severally. But if Zoar is found to be not mentioned in either instance, its site can be decided apart from any such supposed difficulty.

And is it not fair to suggest, also, that "Zor" was meant instead of "Zoan" in the references, in Psalm lxviii, 12, 43, to the marvels wrought in Lower Egypt? The Ten Plagues were not confined to the city of Zoan, nor to the immediate suburbs of any one city. Their sweep was peculiarly "the field of Zor," the region westward from the Great Wall of Zor—as the Hebrew Psalmist would view it. It would certainly seem a very natural way of recalling, from Palestine, that series of miracles in the Egyptian Delta, to say of God's wonder-working in behalf of His ancient people:—

> "Marvellous things did He
> In the sight of their fathers,
> In the Land of Egypt,
> In the Field of Zor."

Brugsch is clearly not justified in claiming that he finds in an ancient papyrus the very *phrase* "'*sochet Zoan*," the 'field of Zoan,'" as an equivalent of the phrase of the Psalmist, "*sadeh Zoan*;" as will be seen

by an examination of the hieroglyphs which he cites in support of that claim (see his "Geog. Dict.," p. 992). To make his point, he arbitrarily translates the quite general determinative of the three upright reeds into the special word *sochet* (*sekhet*) "a field," and then adds the proposition. In fact, while he does not find the phrase "field of Zoan" in the inscriptions, Brugsch does find there the phrase "field of Zaru," or "field of Zor" (see "Geog. Dict.," p 993), as clearly applicable to the region of the Eastern Delta.

This whole inquiry gives another illustration of the value of Biblical geography as an aid to Biblical exegesis.

H. Clay Trumbull.

Philadelphia, U.S.A.

THE SILOAM INSCRIPTION.

From the labours of German scholars, and especially Dr. Guthe and Professor A. H. Sayce, we infer that the text of the inscription is now as fairly translated and settled as it ever will be. My present note has reference only to the statement in the fifth line, and its use in aiding us in the settlement of the value of the Jewish cubit in British inches. Professor Sayce, quoting from Dr. Guthe's article in the "Zeitschrift der Deutschen," &c., xxxvi, 3, 4, gives the following translation of the fifth line of the text, as now settled ;—

> "And there flowed the waters *from the spring to the pool* for a thousand two hundred cubits."

All former translations of the text have given us 1,000 cubits, but the latest are unanimous in making the number 1,200 cubits. I propose in this short note to again call attention to the value of the Jewish cubit as tested by this revised text of the inscription. It will afford us a good opportunity of arriving at some general result.

Theoretical Value of the Cubit.

In former communications I have advocated a cubit of $\sqrt{\pi} \times 10 = 17{\cdot}724$ inches. But I have been making extensive researches in relation to this question, and have arrived at definite results. The cubit-rod of the ancient world, as seen embodied in the nilometer at Elephantine, in the measurements of the Great Pyramid, in the many cubit-rods, and in measurements given in papyri and elsewhere, was the well-known radius of the circle expressed in seconds of arc taken as inches, and reduced $\frac{1}{10{,}000}$ part $= 20{\cdot}62648$ inches, or the same factor as we use in our estimate of the radius of the earth's orbit to obtain the sun's distance $= \frac{206264{\cdot}8}{10{,}000} = 20{\cdot}62648$ inches. This radius was the ancient measuring

rod of the universe, and, with a movable decimal point, became the common measuring rod of the ancient world in all matters pertaining to civil, scientific, and commercial affairs. But this cubit-rod consisted of two spans and a palm, or seven palms.

The Jews used a similar cubit-rod, with a similar division of the scale into spans, palms, and digits. But the Jewish cubit-rod was estimated as a cubit and a handbreadth; for the cubit consisted of two spans = 6 palms = 24 digits. So that the Jewish cubit-rod was one palm or handbreadth *more* than a cubit. The cubit is thus described:

> "These are the measures of the altar, . . . its border on its margin about was *one span*."—Ezek. xliii, 13.
> "The border about it was *half a cubit*."—Verse 17.

The border is "*one span*" in verse 13, and "*half a cubit*" in verse 17; therefore, 1 span = half a cubit. The Jewish cubit was 2 spans, but the cubit-rod was 1 cubit + 1 handbreadth = 2 spans + 1 palm. For the same prophet Ezekiel says:—

> "A cubit [cubit-rule or rod] is a cubit and a handbreadth."—Ezek. xliii, 13.
> "In the man's hand a measuring reed of 6 cubits [as measured by the cubit-rule or rod] by the cubit and a handbreadth."—Ezek. xl, 5.

If the cubit-rod is 7 palms and the Jewish cubit 6 palms, then the cubit can only be six-sevenths of the length of the rod = 17·6798 British inches. And this will be the value of the cubit used by the excavators of this Siloam tunnel. Let us apply this value to the 1,200 cubits of the inscription, and thereby obtain a test of the entire length of the tunnel "from the spring to the pool." Taking different values of a cubit we have the following results:—

1,200 × 25	inches	=	2,500 feet
1,200 × 21	„	=	2,100 „
1,200 × 18	„	=	1,800 „
1,200 × 17·68	„	=	1,768 „
1,200 × 16	„	=	1,600 „

The Test.

We must not overlook the fact plainly stated in the fifth line of the inscription, that the 1,200 cubits include the entire length of the tunnel "from the spring to the pool." The cross passage of the Virgin's Pool = 50·8 feet must be included in this length, for the measurement is evidently taken from the spring itself. Indeed, may it not be true, that the Siloam tunnel originally reached to the spring itself, and that the cross passage of 50·8 feet, leading to the passage above the Virgin's

Fount, is a more modern excavation? This entire length from the masonry of the spring to the Siloam Pool is about 1,758 feet.

Captain Warren	...	...	1,708·0 + 50·8 = 1,758·8
Captain Conder	...	...	1,706·8 + 50·8 = 1,757·6
Dr. Robinson	...	...	... ... = 1,758

Captain Conder says: "Robinson's measurement includes in his 1,758 feet that portion of the cross passage which leads from the Siloam tunnel to the *back* of the Virgin's Pool, and which measures 50·8 feet by the chain." (*Quarterly Statement*, April, 1882, p. 122.) The above three measurements are taken from the same paragraph. But they all begin with the "back" of the masonry of the Virgin's Spring, some feet distant from the actual spring itself. The excavator who made the inscription probably never saw any masonry around the spring, neither should we allow it to interfere with our measurement "from the spring to the pool." The spring is fully 10 feet from the back masonry, where the above measurements began. The true length would therefore be about 1,768 feet "from spring to pool." This is the exact length given by the value of our cubit:

$$1{,}200 \times 17{\cdot}6798 \text{ inches} = 1{,}767{\cdot}98 \text{ feet.}$$

The accuracy of any value given to a cubit is always best seen when the number of cubits are large, for trifling errors are then multiplied into impossible values.

S. Beswick.

Strathroy, Ontario, Canada,
November, 1883.

NOTE ON KADESH BARNEA.

In the *Quarterly Statement* for July there is an extract from a contribution to the "Sunday School Times" by Dr. H. Clay Trumbull, in which he refers to the inability of the recent Expedition of the Palestine Exploration Society to visit 'Ayn Qadees ('Ain Kadeis), the site identified by the Rev. John Rolands as Kadesh Barnea. Perhaps it may be desirable that I should offer a short explanation on this matter in anticipation of the much fuller account which will appear in the narrative of the Expedition shortly to be published.

Dr. Trumbull is correct in saying that the discovery of Kadesh Barnea was one of the objects to be kept in view by our party, but the question was, where was it to be found? It would have been manifestly impossible for us to go into the Badiet et Tîh on a roving expedition in search of this or any other site, unless we had had unlimited time and means, both of men and money, at our disposal. Some of us thought that perhaps the

Springs of 'Ain Abu Werideh, at the western side of the Wâdy el Arabah, which we visited, might be the desired site of Kadesh, and plausible reasons might be adduced for this view; but, for myself, I am disposed to accept the identification advocated by Dr. Trumbull with great ability in his recent work in favour of 'Ain Kadeis. This spot has already been visited, and its position marked on the maps,[1] such as that of the Rev. F. W. Holland;[2] but it lies a long way off the line of our survey, and to have attempted to reach it under the circumstances in which we were placed, would have seriously risked the success of the main objects of our Expedition, namely, the topographical and geological surveys of the great Valley of the Arabah, and of its bordering hills on either side.

Nothing would have induced our Alowîn Arabs to deviate from our line of march, which, as at first arranged with Mohammed Ibn Jhad, was to take us towards Gaza, by forced marches, from a point in the Arabah Valley one day's journey north of Jebel Haroun. This course, which we only agreed to with the greatest reluctance, was afterwards altered by his brother Ali, to that which we actually took down to the shores of the Salt Sea, and which enabled us to complete in its entirety the examination of the whole valley. The account of this change of plan will be found in the forthcoming narrative; when it will be seen how close was the risk we ran of leaving the survey of the Arabah Valley in a mutilated and incomplete condition owing to the fears, real or pretended, of our Arab escort. No one has ever carried out similar work with greater zeal and labour than did Major Kitchener and his assistant, Mr. Armstrong, and if any one could have reached 'Ain Kadeis while traversing the Arabah Valley, they would have done so; but I feel sure they will concur with me in saying, that to have wandered away into the Tîh country in search of 'Ain Kadeis would have endangered the success of the whole survey, even had it been practicable.

In conclusion, allow me to say, that after having carefully read and considered Dr. Trumbull's arguments in his work "Kadesh Barnea," I am quite disposed to agree with him as regards this site; but I cannot go so far as to accept another mountain in the vicinity of 'Ain Kadeis for "Mount Hor," in favour of whose identity as Aaron's Tomb there is strong circumstantial, as well as traditional, evidence. I may have more to say at another time on this point.

Dublin, 24th July, 1884. EDWARD HULL.

[1] Such as Smith and Grove's Ancient Atlas (J. Murray).

[2] *Quarterly Statement* for January, 1884, p. 9, with sketch of the Wâdy Kadeis.

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FROM SEPTEMBER 19TH TO DECEMBER 12TH, 1883, INCLUSIVE.

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*a*Rev. Dr. Wickes	0	10	6
*a*Rev. J. R. Whigham	0	10	6
*a*V. A. Williamson, Esq. ..	1	1	0
*a*Sydney Wolf, Esq.	1	1	0
F. A. S. Z. (don.)	2	0	0
Total	£165	8	9

LOCAL SOCIETIES.

Acknowledged in detail under special heading.

	£	s.	d.
Aberdeen Ladies' Association	24	6	6
Bath	1	1	0
Belfast	2	2	0
Burnley	1	5	6
Cardiff	17	6	6
Do.	7	17	6
Chelmsford	10	5	0
Chichester	2	4	0
Clifton	8	0	0
Cork	11	0	0
Manchester	7	17	6
Do.	7	7	0
Do.	4	14	6
Plymouth	4	12	6
Do.	5	3	0
Reading	1	16	2
Sydney	15	3	0
	£132	1	8

LECTURES.

		£	s.	d.
Nov. 16.—	Rev. H. Geary	11	2	3
	Rev. J. R. Macpherson	2	17	1
Sept. 26.—	Mr. Pearson	6	8	1
Oct. 4.—	Rev. J. McIlraith	0	13	1
Nov. 6.—	Rev. J. Thomson	0	10	9
		£21	11	3

SUMMARY.

	£	s.	d.
Subscriptions	165	8	9
Local Societies	132	1	8
Lectures	21	11	3
	£319	1	8

ABERDEEN LADIES' ASSOCIATION.

December 11th, 1883.—By cash .. .. £24 6*s.* 6*d.*

	£	s.	d.
Miss Fenwick Bisset, 11, Albyn Terrace	2	0	0
Misses Fiddes, Union Street	0	5	0
Miss Johnson, Kinmundie	0	5	0
M.	2	6	0
Rev. Prof. Forbes, D.D., 3, Westfield Terrace	0	10	6
Mrs. Garden, Woodthorpe	0	10	6
Mrs. Duthie, 20, Albyn Place	0	10	0
Mrs. Simpson, 8, Golden Square	0	10	0
Colonel Kirby, 15, Dee Street	1	1	0
James Gebbie, Esq., Strathaven, per Col. Kirby ..	0	10	6
James Mitchell, Esq., Schoolhill	1	0	0
Rev. C. de Faye, Geneva, per Wyllie & Son	0	10	6
John Smith, Esq., Advertisement, Queen's Gate ..	1	1	0
John F. White, Esq., 269, Union Street	1	1	0
David Mitchel, Esq., 24, Adelphi	0	10	6
Stodart J. Mitchel, Esq., Adelphi	0	2	6
Rev. James Selkirk, 5, Westfield Terrace	0	10	6
Mrs. Maclure, 18, Rubislaw Terrace	0	10	0
David Allan, Esq., Union Street	0	10	6
Robert Lumsden, Esq., Ferryhill House	0	10	6
Miss Spence, 2, Castle Hill	0	10	0
William Hunter, Esq., 14, Adelphi	0	10	6
James Stephens, Esq., R.N., 155, Crown Street ..	0	10	6
Rev. John Calder, Old Aberdeen	0	10	6
Rev. William Milligan, D.D., University Old Aberdeen	0	10	6
W. and M. Gordon, 35, Albyn Place	0	5	0

LIST OF SUBSCRIPTIONS.

Collected by Mrs. Doak, 3, Granville Place.

	£	s.	d.
John Crombie, Esq., Balgownie Lodge	1	1	0
George Thompson, Esq., of Pitmedden	1	0	0
David Stewart, Esq., Union Street	1	0	0
Theodore Crombie, Esq., 18, Albyn Place	1	0	0
George Thompson, Esq., Yoet, Aberdeen	1	0	0
Mrs. J. Crombie, Danestone	0	10	6
James Rose, Esq., 5, Albyn Terrace	0	10	6
Cornelius Thompson, Esq., Blackheath, London ..	0	10	6
Mrs. Stephen Thompson, 69, Carlton Hill, N.W. ..	0	10	6
Alex. Webster, Esq., 42, King Street	0	10	6
William Henderson, Esq., Devanha	0	10	6
Mr. and Mrs. Doak, 3, Granville Place	0	10	6
Miss Beard, Hampstead, London	0	5	0
Rev. George Smith, 3, Fountainhall Road	0	10	0

BATH.

Oct. 21, 1883.—By cash .. .. £1 1*s.*

	£	s.	d.
Rev. Canon Brooke	1	1	0

BELFAST.

Nov. 19, 1882.—By Cash .. .. £2 2*s.*

	£	s.	d.
W. Young, Esq.	2	2	0

BURNLEY.

Oct. 2, 1883.—By cash .. .. £1 5*s.* 6*d.*

	£	s.	d.
Mr. F. J. Grant, Bank Parade	0	10	0
Mrs. Stroyan, Brunshaw	0	10	6
Rev. Canon Townley-Parker, M.A., Royle Hall	0	5	0

LIST OF SUBSCRIPTIONS.

CARDIFF.

Nov. 19, 1883.—By cash .. .. £17 6*s.* 6*d.*
By cash .. .. £7 17*s.* 6*d.*

1882.

	£	*s.*	*d.*
Rees Price, Esq.	1	1	0
Messrs. Powell, Duffryn & Co.	1	1	0
Messrs. Coffin & Co.	1	1	0
John Fry, Esq.	1	1	0
John Cory, Esq.	2	2	0
Richard Cory, Esq..	1	1	0
Messrs. D. Davis & Sons	1	1	0
Messrs. Jones, Heard & Ingram	1	1	0
Messrs. Nixon's Navigation Co.	1	1	0

1883.

Bickerton Pratt, Esq.	0	10	6
Messrs. Thomas & Riches	1	1	0
C. M. Jacob, Esq., ...	1	1	0
William Thomas Lewis, Esq., Mardy, Aberdare ..	1	1	0
John Moore, Esq.	0	10	6
Robert Hooper, Esq.	0	10	6
David Davis, Esq., Maes-y-fynnon, Aberdare	1	1	0
Thomas Pratt, Esq., Bridgnorth	0	10	6
Young Men's Christian Association, per William Adams	0	10	6

CHELMSFORD.

Oct. 2.—By cash .. .. £10 5*s.*

	£	*s.*	*d.*
Mr. A. W. Collerton	0	10	0
Mrs. Dobson	0	10	6
Mr. Reeve	0	10	6
Mrs. Straight	0	5	0
Rev. H. T. Johnson	1	1	0
T. Tidbould	1	1	0
S. Turner	0	10	6
Rev. H. Elwell	0	10	6
W. Codd, Esq.	1	1	0
Mrs. Holgate	1	1	0
W. W. Perry, Esq.	2	2	0
Miss Lespingwell	0	1	0
R. H. Crabb, Esq.	1	1	0

LIST OF SUBSCRIPTIONS.

CHICHESTER.

Dec. 5, 1883.—By cash .. .. £2 4*s.*

	£	*s.*	*d.*
Mrs. Durnford	0	10	6
Mrs. Campbell	0	10	6
Mrs. E. B. Pigott	0	10	6
Rev. George Langdale	0	10	0
Miss Elliott	0	2	6

BRISTOL AND CLIFTON ASSOCIATION.

Nov. 7, 1883.—By cash .. .. £8.

	£	*s.*	*d.*
The Lord Rollo	1	0	0
Miss Russell	1	0	0
Miss Moor	1	0	0
W. F. Lavington	1	1	0
Rev. C. H. Wallace	1	1	0
E. W. Bird, Esq.	0	10	6
T. W. Pease, Esq.	0	10	0
Misses Mills	0	10	6
Misses Windsor Richards	0	10	0
Canon Mather	0	5	0
Miss Ware	0	5	0
Miss Douglas..	0	5	0
Rev. T. H. Clark	0	5	0
Miss Nolleg	0	1	0

COUNTY AND CITY OF CORK.

October 30.—By cash £11

	£	*s.*	*d.*
O'Donovan	2	0	0
Rev. Horace T. Fleming	0	10	0
Mrs. Hunt.	1	0	0
Miss A. Hunt	1	0	0
Mrs. Maunsell	1	0	0
Mr. Pigott..	1	0	0
Henry S. Perry, Esq., (Hon. Sec.)	1	0	0
Captain Perry	1	0	0
J. Seymour Romilly, Esq...	0	10	0
Mrs. Perry Sheares	1	10	0

LIST OF SUBSCRIPTIONS.

MANCHESTER.

Oct. 23.—By cash	£7 17*s.* 6*d.*
Nov. 24.—By cash	£7 7*s.* 0*d.*
„ 7.—By cash	£4 14*s.* 6*d.*

MANCHESTER.

Dec. 18.—By cash	£5 8*s.* 0*d.*
„ 15.—By cash	£9 1*s.* 0*d.*
„ 17.—By cash	£9 12*s.* 6*d.*

	£	*s.*	*d.*
*z*J. Yates, Esq.	1	1	0
*z*C. G. Rockwood, Esq. ..	0	10	6
*z*J. A. Eastwood, Esq. ..	0	10	6
*z*Principal Greenwood ..	1	1	0
*z*The Misses Sharp	1	1	0
*z*J. R. Barlow, Esq.	0	10	6
*z*J. Allsop, Esq.	1	1	0
*z*Joseph Rice, Esq.	1	1	0
*z*James Heelis, Esq.	1	1	0
*z*Rev. E. C. Hose	0	10	6
*z*Rev. T. H. Guest	0	10	6
*z*J. W. Keeling, Esq.	1	1	0
*z*J. B. Lee, Esq.	0	10	6
*z*J. H. Montgomery, Esq. ..	1	1	0
*z*Miss Lowe	1	1	0
*z*Miss Alice Lowe	1	1	0
*z*T. W. Freston, Esq.	1	1	0
*z*John Napier, Esq.	1	1	0
*z*Ven. Archdeacon Anson ..	1	0	0
*z*Ven. Archdeacon Birch ..	1	1	0

	£	*s.*	*d.*
*a*Rev. A. M. McLaren, D.D. ..	1	1	0
*a*Mrs. Ryder Richardson ..	1	1	0
Rev. J. W. Orton	0	3	0
*a*Rev. T. N. Farthing	0	10	6
*a*J. H. Bullock, Esq.	1	1	0
*a*Rev. Canon Tonge	0	10	6
*a*Rev. G. Burwell	1	1	0
*a*J. H. Grafton, Esq.	1	1	0
*a*Rev. H. A. Crosbie	1	1	0
*a*Rev. Canon Stowell	0	10	6
*a*Jabez Johnson, Esq.	1	1	0
*a*S. R. Hargreaves, Esq. ..	0	10	6
*a*Rev. G, W. Reynolds.. ..	0	10	6
*a*J. Parlane, Esq. (1882–83) ..	2	2	0
*a*Oliver Heywood, Esq. ..	2	2	0
*a*Rev. W. H. Rogers, D.D. ..	1	1	0
Fritz Reitt, Esq.	5	0	0
*a*Rev. A. Haworth	0	10	6
*a*Rev. W. Symonds	0	10	6
*a*Rev. J. W. Consterdine ..	0	10	6

PLYMOUTH.

Sept. 26.—By cash .. .. £4 12*s.* 6*d.*

	£	*s.*	*d.*
Per W. C. Nicholson, Esq.	0	10	6
Mrs. Woodhouse	0	10	6
H. B. S. Woodhouse	1	1	0
Collected as per list	2	10	6

	£	*s.*	*d.*
Miss E. P. Martin	0	2	0
D. McK.	0	2	0
Mrs. Guswell	0	2	6
W. Angear, Esq.	0	2	6
Thos. Goard, Esq.	0	5	0
W. Short, Esq.	0	2	6
W. P. Hutchens, Esq. ..	0	5	0
Wm. King, Esq.	0	2	6
Carried forward	£1	4	0

	£	*s.*	*d.*
Brought forward	1	4	0
H. A. W.	0	5	0
L. W.	0	5	0
T. Pitts, jun., Esq.	0	5	0
J. Carkeet, Esq.	0	2	6
W. Babb, Esq.	0	5	0
W. J. White, Esq.	0	2	0
W. W. Anthony, Esq. ..	0	2	0
	£2	10	6

LIST OF SUBSCRIPTIONS.

Nov. 5, 1883.—By cash .. .. £5 3*s.*

	£	*s.*	*d.*
Mr. J. Windeatt	2	0	0
Captain Inskip, R.N.	0	10	6
Mr. J. N. Bennett	0	10	6
Miss Bragge..	0	10	6
Mr. J. Shelly	0	10	6
Mr. Edward James..	0	10	6
Mr. H. Greenway	0	10	6

READING.

Dec. 12, 1883.—By cash .. .. £1 16*s.* 2*d.*

	£	*s.*	*d.*
Rev. C. F. J. Bourke	0	10	6
R. Bracher, Esq.	0	5	0
A. W. Sutton, Esq.	1	1	0

SIDNEY, NEW SOUTH WALES.

Nov. 29, 1883.—By cash .. .. £14 2*s.* 6*d.*

	£	*s.*	*d.*
Rev. Dr. Steel, Sidney	1	1	0
B. Short, Esq., Arcade Corner, George Street, Sidney ..	1	1	0
John S. Adam, Esq., The Lea, Croydon, N.S.W... ..	1	1	0
W. Wright, Esq., Drommoyne, Hunter's Hill, N.S.W. ..	1	1	0
Rev. F. Hibberd, Holden Street, Ashfield, N.S.W. ..	2	2	0
James Comrie, Esq., Northfield, Kurrajong Heights, N.S.W.	1	1	0
Rev. James Cameron, M.A., Redmond, N.S.W.	1	1	0
Rev. A. Gardiner, M.A., Glebe Point, Sidney	1	1	0
Rev. C. Stewart, M.A., 333, Bourke Street, Sidney ..	1	1	0
Very Rev. Dean Cowper, Sidney	0	10	6
Mrs. Perdrian, Balmain	1	0	0
Mrs. Hugh Dixon, sen., Ashfield, Sidney	1	1	0
Hon. Prof. Smith, M.D., M.L.C., Macquarie Street, Sidney	1	1	0

FROM MR. GEARY'S LIST.

	£	*s.*	*d.*
H. S. Hird, Esq., Cheshunt	0	10	6
Algernon R. Goddard, Esq., Church Fields, Broxbourne..	1	1	0

FROM REV. J. R. MACPHERSON'S LIST.

Nov. 22, 1883.—By cash .. .. £2 17*s.* 1*d.*

	£	*s.*	*d.*
Miss Elizabeth Macpherson	0	10	6
John Davidson, Esq.	1	0	0
Miss Davidson..	1	0	0
Mrs. Keish	0	10	6

SUPPLEMENTARY LIST.

The following additional donations and subscriptions bring the list to Dec. 24th:—

	£	*s.*	*d.*
Miss MacWhirter..	0	10	6
Judge Gowan	4	0	0
Rev. D. W. Brymer	0	10	6
Rev. Dr. Crosby	2	0	0
J. Miller, Esq.	1	1	0
A. Crosbie, Esq.	0	10	6
W. E. Stevenson, Esq.	1	1	0
Weston-super-Mare	2	7	0
Manchester Local Society	12	9	0
Lecture at Kirkcudbright	1	11	0
Rev. J. King	1	11	6
Manchester	7	12	6
Mrs. A. Barwell	1	0	0
Beech Street Sabbath School	1	0	0
Professor Osgood..	0	10	6
W. Robinson, Esq.	1	1	0
Sydney Local Society	5	0	0
W. Appleford, Esq.	1	0	0
W. Lowe, Esq.	1	1	0
Miss Du Buissa	0	10	6
Cheltenham Local Society	17	10	0
E. V. Gregory, Esq.	0	10	0

LIST OF HONORARY SECRETARIES AND LOCAL ASSOCIATIONS.

ALLOA: Rev. Alexander Bryson and Rev. Daniel M'Lean.
ABERDEEN: Rev. Prof. Milligan, D.D. *Hon. Sec.* Ladies' Association, Miss Mary Forbes.
ADELAIDE: Rev. W. R. Fletcher.
AMBLESIDE: Rev. H. B. Rawnsley, Wray Vicarage.
ANSTRUTHER: W. H. Mackintosh, Esq.
ARBROATH: T. B. F. Webster, Esq.
AYR: Robert Murdoch, Esq.
BASINGSTOKE: Rev. W. Marriner.
BATH: Rev. T. P. Methuen.
BEDFORD: Rev. Canon Haddock.
BELFAST: Rev. the President of Queen's College.
BIRKENHEAD: Rev. J. T. Kingsmill, St. Aidan's College.
BIRMINGHAM: Rev. F. Dell.
BISHOP'S WALTHAM: Rev. H. R. Fleming.
BLACKBURN: Herbert Birch, Esq., and Rev. A. B. Grosart.
BLAIRGOWRIE: W. S. Soutar, Esq.
BODMIN: S. Hicks, Esq.
BOLTON: George Monk, Esq.
BRECON: Richard Mills, Esq.
BRIGHTON: Rev. C. E. Douglass.
BURNLEY: Alfred Strange, Esq.
BURY: *Hon. Treas.*—Rev. Canon J. Hornby; *Hon. Sec.*—Rev. D. Walmsley.
CAMBRIDGE: W. M. Hicks, Esq., M.A., St. John's College; G. T. Bettany, Esq., M.A., Gonville and Caius.
CANADA: Toronto.—Subscriptions are received by the Hon. G. W. Allan.
CARDIFF: W. Adams, Esq., Cambridge House, Park Place, Cardiff.
CHELMSFORD: Rev. G. B. Hamilton.
CHELTENHAM: Dr. E. Wilson.
CHESTER: Rev. J. Davidson.
CHIPPENHAM: A. T. Keary, Esq.
CITY AND COUNTY OF CORK: H. S. Perry, Esq., Monkstown.
CLIFTON and BRISTOL: Rev. C. H. Wallace.
COLCHESTER: Rev. N. P. Gepp.
CROYDON: J. W. Janson, Esq.
DARLINGTON: J. P. Pritchett, Esq.
DEVONPORT: J. Venning, Esq.

DUBLIN: Denis Crofton, Esq., and Rev. G. T. Stokes.
DUNDEE: *Hon. Treas.*—Alex. Scott, Esq.
DUNFERMLINE: Rev. A. Graham, Crossgates.
EASTBOURNE: Rev. H. R. Whelpton.
EDINBURGH: Rev. W. Lindsay Alexander, D.D., William Dickson, Esq., F.R.S.E., and T. B. Johnston, Esq., F.R.G.S., 16, So. St. Andrew Street.
EPSOM: Miss Hislop.
EXETER: Rev. Prebendary Acland, Broad Clyst, and Rev. W. David.
FAIRFIELD: S. J. A. Barrow-Clough.
FALMOUTH, for the County of Cornwall: A. Lloyd Fox.
FROME:
GAZA: J. G. Pickard, Esq.
GLASGOW: Rev. W. P. Dickson, D.D., Rev. Donald Macleod, D.D., A. B. M'Grigor, Esq., LL.D., and James Andrew Allan, Esq.
GREENOCK: Edward Blackmore, Esq.
GUILDFORD: Major-General E. A. Foord, R.E.
HASTINGS: J. E. Liddiard, Esq.
HEREFORD: Rev. F. S. Stooke-Vaughan.
HERTFORD: W. M. Armstrong, Esq.
HITCHIN: J. Pollard, Esq.
HOLYHEAD: Rev. W. R. Jones.
HUDDERSFIELD: Henry Barker, Esq.
HULL: J. P. Bell, Esq., M.D.
IPSWICH:
IRELAND:—DUBLIN: *Hon. Secs.*—Rev. G. T. Stokes, Blackrock; Denis Crofton, Esq. *Treasurers.*—The Munster Bank.
JERUSALEM: Dr. Chaplin.
KENDAL: Robert Somervell, Esq.
KIRKCALDY: John Barnett, Esq.
LANCASTER: Rev. J. Bone.
LARKHALL: Rev. William Findlay, A.M.
LEAMINGTON: Rev. J. Johnson, M.A.
LEDBURY: Rev. F. Salter Stooke-Vaughan.
LEEDS: Edward Atkinson, Esq., F.R.C.S.
LEICESTER: Rev. A. A. Isaacs, M.A.
LEWES: Rev. Cecil Blaker.
LICHFIELD: Herbert M. Morgan, Esq. *Hon. Sec.* Ladies' Association, Mrs. Bagnall.
LINCOLN: Rev. A. R. Maddison.
LIVERPOOL: Ven. Archdeacon Bardsley.
LONDONDERRY: James McCorkell, Esq., Queen Street.
MAIDSTONE: Rev. Thomas Harvey.
MANCHESTER: Rev. W. F. Birch, and Rev. Canon Crane. *Treasurer.*—Oliver Heywood, Esq., Manchester and Salford Bank, St. Ann's Street.
MANSFIELD: W. Gouk, Esq.
MARGATE: Rev. G. Collis.
MARKET HARBOROUGH: Joseph Nunnelly, Esq.
MELTON MOWBRAY: Rev. Arthur M. Rendel.
MELROSE: Ralph Dunn, Esq.
MONTROSE: Mr. Mackie.

MORPETH: Dr. Robinson.
NORWICH: Rev. W. F. Creeny.
OXFORD: Rev. Canon Girdlestone.
PERTH: John W. Jameson, Esq.
PITLOCHRIE: Hugh Mitchell, Esq.
PLYMOUTH: J. B. Rowe, Esq., and J. Shelly, Esq.
PWLLHELI: Rev. Owen Jones.
RAMSGATE: Rev. F. Gell.
READING: J. Sizer, Esq., Willow Cottage, Mill Lane.
REIGATE:
RICHMOND, SURREY:
RIPON: J. W. Weight, Esq.
RUGBY: Rev. A. O. James.
RUNCORN: Rev. W. Preston, M.A.
RYDE: E. Knocker, Esq.
SALISBURY: J. Lardner Green, Esq., M.R.C.S.
SCARBOROUGH: Rev. J. Bedford.
SHEFFIELD: *Chairman*—Rev. Canon Blakeney, Vicar of Sheffield.
SHREWSBURY: Rev. C. H. Drinkwater.
SISSINGHURST: Rev. W. Peterson.
SOUTHAMPTON and ROMSEY: Rev. Henry C. Hawtrey.
SOUTHSEA: Rev. F. Baldey.
SOWERBY: Rev. A. L. W. Bean.
ST. ALBANS: Rev. W. J. Lawrance.
ST. ANDREWS: Dr. Lees, and Dr. Mitchell.
ST. HELENA: Rev. Canon Lambert.
STROUD: T. S. Osborne, Esq.
SYDENHAM and FOREST HILL: Rev. William Boyd, LL.D.
SYDNEY, NEW SOUTH WALES: Rev. R. Steel, D.D.
TEIGNMOUTH: Rev. H. Hutchins.
TORQUAY: Rev. Preb. Wolfe.
UXBRIDGE: Rev. A. A. Harland.
WARMINSTER: W. Frank Morgan, Esq.
WELLS: W. I. Welsh, Esq.
WESTON-SUPER-MARE: Rev. H. G. Tomkins.
WEYMOUTH: G. Ff. Eliot, Esq.
WHITBY: E. W. Chapman, Esq.
WILLESDEN: Rev. J. Crane Wharton.
WINCHESTER: Rev. R. P. Hutchinson.
WINDSOR: Rev. Stephen Hawtrey.
WOLVERHAMPTON: Mr. J. McD., Roebuck.
WOODSTOCK: Ontario.—William Edwards, sen., Esq.
WORCESTER: Rev. Francis J. Eld.
YEOVIL: Rev. Abel Phillips, Holy Trinity Vicarage.

The Committee will be glad to communicate with gentlemen willing to help the Fund as Honorary Secretaries.

LIST OF DONATIONS AND SUBSCRIPTIONS.

FROM DECEMBER 12TH, 1883, TO MARCH 12TH, 1884, INCLUSIVE.

a denotes Annual Subscriber.

*** If any omission or mistake be observed in the following lists, the Secretary will be very glad to be informed of it, and will rectify the error in the next *Quarterly Statement*.

	£	s.	d.
*a*Rev. H. Halford Adcock ..	0	10	6
*a*J. S. Aldis, Esq.	1	1	0
*a*H. Alexander, Esq.	1	1	0
*a*Rev. W. Allan..	1	1	0
*a*Mrs. Allen	0	10	6
Anonymous	0	9	10
*a*Captain Anderdon	2	0	0
*a*Rev. J. Andrew	0	10	0
*a*C. J. Angus, Esq.	0	10	0
W. Appleford (collected by)..	1	0	0
*a*Rev. J. Appleton	1	1	0
*a*Miss Archer	0	5	0
*a*R. Ashby, Esq.	1	1	0
*a*Miss Ashcroft	0	10	6
*a*The Misses Badcock	1	1	0
Do. (don.) ..	0	11	0
*a*Rev. G. F. Bain	0	10	6
*a*Rev. Sir Talbot Baker, Bart. (1883-84)	2	0	0
Do. (don.)	3	0	0
*a*Lady K. Raymond Barker ..	1	1	0
*a*Rev. R. V. Barker	1	1	0
*a*J. Barlow, Esq., M.D... ..	1	1	0
*a*Mrs. A. Barwell	1	0	0
*a*Miss Beaufort..	1	1	0
*a*G. P. Beley, Esq.	0	10	6
*a*Rev. W. Bell	0	10	6
*a*Rev. J. Bell	0	10	0
*a*G. Bickerton, Esq.	1	0	0
*a*G. Bickerton, Esq.	1	1	0
Lewis Biden, Esq. (don.) ..	1	1	0
*a*John Binney, Esq.	1	1	0
*a*Rev. W. H. Blamire	2	2	0
*a*Mr. and Mrs. Blandy.. ..	1	1	0
Miss Blandy	0	10	6
*a*Rev. A. Blunt	1	1	0
*a*W. Bottevill, Esq.	0	10	6
Miss Kempsey Bourne ..	0	10	0
*a*Rev. A. K. Boustead.. ..	0	10	0
*a*Rev. C. J. K. Boustead ..	0	5	0
Carried forward	£36	1	10

	£	s.	d.
Brought forward	36	1	10
*a*Rev. John Bowman	0	10	6
*a*Rev. J. S. Bowles	1	1	0
*a*J. B. Braithwaite, Esq. ..	0	10	6
*a*Rev. W. G. Bridges	0	10	6
*a*Brighton Brunswick Book Club, per Mrs. Bovron	0	10	6
*a*Miss Brock	0	10	0
*a*Miss Brown	0	10	0
*a*R. Brown, Esq.	0	10	6
Rev. Canon Brownlow ..	0	10	6
*a*Lord Bute (don.)	20	0	0
*a*Rev. Canon Butler	1	1	0
*a*Rev. D. M. Bynner	0	10	6
*a*Rev. F. Lion Cachet.. ..	0	10	6
*a*Rev. J. W. Carr	1	1	0
*a*Rev. J. L. Carrick	1	1	0
*a*Miss Cheetham	1	1	0
*a*J. Cheetham, Esq.	1	1	0
*a*Rev. G. Christian	1	1	0
*a*J. Fenn Clark, Esq.	1	1	0
*a*General J. Clark	0	10	0
*a*Rev. C. P. Clark	1	1	0
Do. (don.) ..	0	11	0
Miss Clayton	0	10	0
*a*Captain Cobham	1	1	0
*a*Rev. J. B. Colvill	0	10	6
*a*R. H. Cook, Esq., F.R.C.S. ..	1	1	0
*a*Rev. Flavel Cook, D.D. (1883-84)	1	1	0
*a*Rev. Canon Coulson ..	1	1	0
*a*H. Courtier, Esq.	0	10	6
*a*General Cracklow	2	2	0
*a*Mrs. Crewdson	1	1	0
*a*R. Crewdson, Esq.	1	1	0
*a*Rev. T. Cross	0	10	0
Miss F. Cross	0	10	6
*a*A. Crosbie, Esq.	0	10	6
*a*Rev. Howard Crosby	2	0	0
*a*J. H. Dalzell, Esq., J.P. ..	1	1	0
Carried forward	£86	6	10

	£	s.	d.
Brought forward	86	6	10
*a*Rev. Preb. Davey	0	10	6
*a*Rev. T. Davidson	0	10	0
*a*W. W. Dickenson, Esq. ..	2	2	0
*a*A. Dodgson, Esq.	1	1	0
*a*J. Dodgson, Esq.	0	10	6
*a*A. D. Robinson Douglas, Esq.	1	1	0
*a*Miss Du Buisson	0	10	6
*a*Dr. Duncan	1	1	0
*a*Rev. J. Dymock	0	5	0
*a*J. Eden, Esq.	1	1	0
*a*Miss Ewart	1	1	0
*a*Rev. A. R. Fausset	1	1	0
*a*L'Abbé Fernique	0	5	0
*a*Rev. R. W. Fisk	0	5	0
*a*Rev. E. Flecker	0	10	6
*a*Rev. D. Forbes	0	10	6
*a*Prof. Michael Foster.. ..	1	1	0
*a*Rev. A. M. Foster	1	1	0
*a*Rev. F. H. Freeth	1	1	0
*a*J. A. French, Esq.	0	10	6
*a*R. A. Fuller, Esq.	0	10	6
*a*W. H. Gamlen, Esq.	2	2	0
*a*Miss Garnet	1	0	0
*a*Miss Haines	1	1	0
*a*Rev. H. Hall-Houghton ..	10	0	0
*a*General Halliday	1	1	0
*a*Rev. G. B. Hamilton . ..	1	1	0
Do. (don.) ..	0	10	6
*a*Captain Hankey	0	10	6
*a*Miss C. Hardy	1	0	0
*a*G. Hardy, Esq.	1	1	0
*a*Rev. A. A. Harland	0	10	6
*a*G. R. Harrison, Esq... ..	1	1	0
*a*Rev. R. M. Hawkins ..	1	1	0
*a*Miss Heath	1	1	0
*a*Mrs. Heber Percy	1	1	0
*a*R. Henderson, Esq.	0	10	6
*a*Rev. A. Henderson	0	10	6
*a*Rev. J. Hewetson	1	0	0
*a*B. A. Heywood, Esq... ..	1	1	0
Oliver Heywood, Esq. (don)..	5	0	0
*a*A. H. Heywood, Esq. ..	5	5	0
*a*Rev. Dr. Hickes (the late) ..	1	1	0
*a*Rev. T. H. Hickes	1	1	0
*a*J. Hilton, Esq.	3	0	0
*a*Mrs. Hind	1	1	0
*a*Mrs. Hindmarshe	0	10	6
*a*Miss A. Hoare	1	1	0
*a*S. H. Hodgson, Esq.	1	1	0
*a*Rev. C. H. Hole	1	1	0
*a*Mrs. Hopkins	1	1	0
*a*Mrs. Huish	1	1	0
*a*Prof. Hull, F.R.S. (1883-84)..	2	0	0
*a*Miss Hulton	0	10	0
*a*Dr. Hutchinson	1	1	0
Carried forward	£155	14	4

	£	s.	d.
Brought forward	155	14	4
*a*J. L. Jardine, Esq.	2	2	0
*a*Rev. T. M. Johnston	0	10	6
*a*H. D. Jones, Esq.	0	10	6
*a*Rev. O. Jones	0	10	6
*a*Rev. W. R. Jones	0	10	6
*a*Miss Garratt	0	10	6
*a*Mrs. George	1	1	0
*a*J. G. Gibbs, Esq.	1	1	0
*a*Miss Gilston	0	10	0
*a*Mrs. Goddard..	0	10	0
*a*Mrs. Gordban..	0	10	6
*a*Mrs. Gormon	0	10	6
*a*Rev. T. M. Gormon	1	1	0
*a*Judge Gowan..	4	0	0
*a*E. V. Gregory, Esq.	0	10	0
*a*Miss Kay	1	1	0
*a*W. Kay, Esq...	0	10	0
*a*Rev. J. F. Kane	0	10	6
*a*Mrs. C. Kemble	1	1	0
*a*R. P. Kerr, Esq.	1	1	0
Rev. J. King	1	11	0
*a*Herr Kerberger (1883-84) ..	1	1	0
*a*R. L. Kirby, Esq.	0	10	6
*a*E. Knocker, Esq.	0	10	0
*a*Lady E. Knox	0	10	6
*a*Rev. W. Lance	1	0	0
*a*Rev. W. Lang	0	10	6
*a*R. E. Leader, Esq. ..	0	10	6
*a*H. Leask, Esq.	0	10	6
Do. (don.).. ..	0	12	0
*a*Miss Ledram	0	10	6
*a*C. H. L. Leicester, Esq. ..	1	1	0
Rev. J. A. Leicester	1	11	6
*a*Rev. J. Leishman	1	0	0
*a*Mons. L'Abbé Levesque ..	0	5	0
*a*Rev. W. Lloyd	0	10	6
*a*Rev. R. Lorimer	0	10	6
*a*Dr. Lortet (don.)	0	12	0
*a*A. Lupton, Esq.	1	1	0
*a*Rev. Joseph Lyon	5	0	0
*a*Dr. Lythe (don.)	0	10	6
*a*D. MacBrayne, Esq.	1	1	0
*a*Rev. S. G. MacLaren ..	0	10	6
*a*Miss MacWhirter	0	10	6
*a*W. B. Maingay, Esq. ..	1	1	0
*a*Rev. J. Marshall	1	1	0
*a*Miss Martin	1	1	0
*a*J. McKinnel, Esq.	1	1	0
*a*Rev. P. Mearns	0	10	6
*a*John Megaw, Esq.	0	10	6
*a*Rev. A. Melville	1	0	0
*a*Rev. C. H. L. Mercer ..	0	10	6
Peter Mill, Esq. (don.) ..	0	12	0
*a*Rev. A. Miller	1	1	0
*a*J. Miller, Esq.	1	1	0
Carried forward	£205	16	10

	£	s.	d.
Brought forward	205	16	10
aRev. W. M. Milner	0	10	6
aMiss Mills	1	1	0
aRev. J. Mitchell	0	10	6
aThe Mitchell Library ..	0	10	6
aRev. J. H. Moore	1	0	0
aH. J. Morton, Esq.	1	1	0
aRev. W. Morton	0	10	6
aRev. Canon Musgrave ..	1	0	0
aBishop of Nelson	1	1	0
aDr. Ogle	1	1	0
aLady A. Onslow	2	2	0
aMiss Orlebar..	1	1	0
aH. M. Ormerod, Esq... ..	10	0	0
aRev. A. S. Ormerod	1	1	0
aRev. Prof. Osgood (1883-84)	1	1	0
aW. D. Paine, Esq.	2	2	0
aPaisley Institution	1	1	0
aC. E. Parker, Esq.	1	1	0
aMrs. Pattenson	0	10	6
J. H. Paul	0	10	6
aMiss Peard	1	1	0
aD. M. Peebles, Esq.	1	0	0
aRev. C. Perry	0	10	6
aF. W. Pinney, Esq.	0	10	6
aT. H. Plowes, Esq.	1	1	0
aHerr von Pochammer ..	1	1	0
aRev. Prof. Powell	0	10	6
aJ. F. Pownall, Esq.	1	1	0
aPresbyterian Sabbath School..	1	0	0
aRev. J. Price	0	10	6
aH. Prigg, Esq.	0	10	0
aJ. Prince, Esq.	1	1	0
aRev. W. H. Proby	1	1	0
a"R."	0	10	6
aMajor-Gen. J. L. Rankin ..	1	1	0
aRev. A. M. Rendell	1	1	0
aDr. Reynolds	0	10	6
aRev. W. B. Richards.. ..	0	10	6
aH. Richardson, Esq.	1	1	0
aRev. F. Rigaud	0	10	6
aRev. Philpin de Rivière ..	0	5	0
aR. Roberts, Esq.	0	10	6
aRev. Prof. J. Robertson ..	1	0	0
aMrs. Robertson	1	1	0
aW. Robinson, Esq.	1	1	0
aRochester Theological Seminary	0	10	6
aDr. Rodgers	1	0	0
aRev. W. P. Rorison	1	1	0
aMrs. Roscoe	1	1	0
aRev. J. R. Russell	0	10	6
aRev. J. C. Rust	0	5	0
aRev. J. Ruthven	0	10	6
aW. Sandby, Esq.	1	1	0
aMiss Sawyer	0	10	6
aScarborough Philosophical Society	1	0	0
Carried forward	£262	3	4

	£	s.	d
Brought forward	262	3	4
aMiss E. Secretan	0	10	6
aMiss Sharpe	0	10	6
aMajor Skipwith (1884–85) ..	2	2	0
aArthur Smith, Esq.	0	10	6
aColonel Smyth	1	1	0
aR. J. Snape, Esq.	1	1	0
aDr. Socin	0	10	6
aF. Spencer, Esq.	0	10	0
aPupils of Spring Hill School..	1	1	0
aRev. J. Stenhouse	0	10	6
aRev. C. E. Stuart	1	1	0
aW. E. Stevenson, Esq. ..	1	1	0
aEugene Stock, Esq.	0	10	6
aH. Stokes, Esq.	1	0	0
aR. K. Strang, Esq.	0	10	6
aE. Strickland	0	10	0
aRev. R. A. Stroud	0	10	0
aMiss Susan Strutt	1	0	0
aC. E. Stuart, Esq.	1	1	0
aColonel W. Stuart	1	1	0
aRev. G. Studdert	1	1	0
aMiss Styan	1	1	0
Miss Sutherland	0	10	6
aMrs. F. Taylor	0	10	6
aMiss Taylor	1	1	6
aMiss Taylor	0	10	0
aE. Thomas, Esq.	1	1	0
aJ. D. D. Thomas	0	10	6
aMiss Tolson	0	10	6
aF. T. Trippe	1	1	0
aF. F. Tuckett	1	1	0
Do. (don.)	1	0	0
aMrs. Tufnell	1	1	0
aRev. Twiss Turner	2	2	0
aUnion Theological Seminary..	0	10	6
aMiss Vansittart	1	1	0
aVictoria Institute	1	1	0
aCaptain Walker	0	10	6
aMrs. Wedgwood	2	0	0
aMrs. Walland	1	0	0
aN. C. White, Esq.	1	1	0
aC. S. Wilkinson, Esq. ..	2	2	0
aMrs. E. Smith Wilkinson ..	0	10	6
aMiss Williams..	1	1	0
aRev. E. Wilson	0	10	6
aRev. W. Wilson	0	10	0
aC. Wilson, Esq.	2	0	0
aR. D. Winter, Esq.	0	15	0
aH. K. Wood, Esq.	2	2	0
A. S. Woodhouse, Esq. (don.)	2	2	0
aRev. C W. Worlledge ..	1	0	0
aRev. Dr. Wray	1	1	0
aRev. W. H. Wright	1	1	0
aMiss Yates	1	1	0
aMrs. B. Young	1	1	0
aMiss M. C. Young	0	10	6
Total	£316	8	10

LIST OF SUBSCRIPTIONS.

FROM COUTTS & CO.'S BOOK.

	£	s.	d.
Rev. H. A. Hort	2	2	0
Mrs. C. Drummond	1	1	0
E. A. Drummond, Esq. ..	3	3	0
Captain Drummond	1	0	0
Rev. M. T. Farrer	5	0	0
F. A. Ohlson, Esq.	1	1	0
C. Davis, Esq.	1	0	0
Rev. F. E. Wigram	5	5	0
Mrs. E. J. Holland	0	10	0
D. W. Freshfield, Esq... ..	1	1	0
J. Noble, Esq.	2	0	0
W. T. Young, Esq.	1	1	0
Rev. G. J. Pilcher	2	2	0
F. E. Blackstone	1	1	0
Miss Tufnell	0	10	6
Rev. A. Carr	1	1	0
A. Peckover, Esq.	0	10	0
Miss Peckover	0	10	0
Rev. J. T. Fowler	1	1	0
Rev A. L. White	1	0	0
W. H. Rylands, Esq.	1	1	0
J. Challiner, Esq.	1	1	0
A. Cates, Esq.	2	2	0
Mrs. Carlyon	0	10	0
General Cooke	1	0	0
Captain Kitchener	1	0	0
A. F. Buxton, Esq.	1	1	0
Carried forward	£39	14	6

	£	s.	d.
Brought forward	39	14	6
Rev. F. Ladds	1	1	0
Rev. E. Scarth	1	1	0
Rev. S. F. Hawtrey	2	2	0
Dean of St. Paul's	1	0	0
Rev. D. A. Beaufort	1	1	0
W. R. Reeves, Esq.	0	10	0
G. A. King, Esq.	0	10	6
Mrs. Crosbie	3	3	0
C. A. Grover, Esq.	1	1	0
H. Morris, Esq.	1	0	0
Rev. W. J. Stracey	2	2	0
Bishop of Moray and Ross ..	1	1	0
Miss Bridges	5	0	0
Mrs. Benyon	0	10	6
Rev. W. Inge	1	1	0
H. W. Guise, Esq.	1	0	0
G. C. Courthope, Esq... ..	1	1	0
H. Peto, Esq.	2	0	0
Bishop of Dover	1	1	0
Miss A. Everard	1	1	0
Lady Low	1	0	0
J. Kirkpatrick	1	1	0
Rev. G. H. Mullens	1	1	0
Rev. R. Powell	0	10	6
Rev. F. J. Walton	1	1	0
Mrs. Carnegie	1	1	0
Total	£73	16	0

FROM THE UNION BANK BOOK.

	£	s.	d.
G. L. Pearson, Esq...	1	0	0
Rev. A. Thompson	1	1	0
Rev. A. Taylor	0	10	6
H. F. Pease, Esq.	1	1	0
Robert Taylor, Esq.	1	1	0
Rev. P. Methuen	0	10	6
W. H. Leighton, Esq.	2	2	0
Legacy of Mrs. Jay	2,000	0	0
General Parker	1	1	0
Mrs. Paley	0	10	6
	£2.008	17	6

LOCAL SOCIETIES.

Acknowledged in detail under special heading.

	£	s.	d.
Aberdeen	17	14	0
Adelaide	4	0	0
Bishops Waltham	2	2	0
Brighton	9	16	0
Do.	5	4	0
Carried forward	£38	16	0

LIST OF SUBSCRIPTIONS.

1884.	£	s.	d.
Brought forward	38	16	0
Cardiff	1	1	0
Cheltenham	17	10	0
Dunfermline	8	13	6
Hitchin	5	5	0
Lichfield	9	13	3
Manchester	44	4	6
Sydney	8	6	0
Tunbridge Wells	5	13	0
Weston-Super-Mare	2	17	6
Whitby	2	0	0
	£143	19	9

SUPPLEMENTARY LIST.

MARCH 13TH TO 21ST INCLUSIVE.

	£	s.	d.
*a*Rev. W. H. Walford	2	2	0
*a*Mrs. Mitchell	1	1	0
*a*Colonel Locock, R.E.	5	0	0
*a*Rev. W. D. Newnham	1	1	0
Do. (don.)	1	1	0
*a*H. Ormond, Esq.	0	10	0
G. F. Watts, Esq...	1	1	0
Rev. A. Kennion	0	10	0
F. A. Eaton, Esq...	1	1	0
Rev. R. B. Girdlestone	1	1	0
Rev. B. L. Stanhope	1	1	0
S. Symons Martyn, ...	1	1	0
H. G. Martyn, Esq.	0	10	6
Mr. Allport, ...	0	5	0
Philip Smith, Esq.	1	0	0
The Dean of Ripon	2	0	0
Londonderry (List)	3	13	6
Professor Sauday	1	1	0
Mrs. Ashmead	0	10	6
	£25	10	6

SUMMARY.

	£	s.	d.
Subscriptions and Donations	316	8	10
Local Societies	143	19	9
Lectures	43	16	3
Coutts & Co.	73	16	0
Union Bank of London	2,008	17	6
Supplementary List	25	10	6
	£2,612	8	10

ABERDEEN LADIES' ASSOCIATION.

March 12, 1884.—By cash .. .. £17 14*s*.

	£	s.	d.
Rev. W. D. Scott, 21, Waverley Place	0	10	6
Dr. D. and Mrs. Dyce Davidson, 224, Union Street ..	0	10	6

LIST OF SUBSCRIPTIONS.

	£	s.	d.
George Jamieson, Esq., 39, Albyn Place	0	10	6
Robert Smith, Esq., Glenmillan	0	10	6
Alex. Cochran, Esq., 152, Union Street	0	5	0
William Stephenson, M.D., 261, Union Street	0	10	6
Francis Ogston, M.D., 14, Albyn Terrace	0	10	6
Rev. John Robson, D.D., 30, Carden Place	0	10	6
Rev. Alexander M. Bannatyne, 5, Rubislaw Place ..	0	10	6
The Misses Millar, 158, Crown Street	0	10	0
M. F. Smith Shand, M.D., 17, Albyn Place	0	10	6
Rev. James M'Clymont, 4, Albert Street	0	10	6
J. Murray Garden, Esq., Maryfield	1	1	0
William Smart, Esq., 131, Union Street..	0	10	6
James Aiken, jun., Marschal Street	0	10	0
Alexander D. Milne, Esq., 40, Albyn Place	0	10	6
Andrew Murray, Esq., 103, Union Street	0	10	0
George Milne, Esq., M'Combie's Court	0	10	6
James Chalmers, Esq., Westburn	0	5	0
Robert Gerard, Esq., 99, Union Street	0	10	6
Mrs. Yeats, Beaconhill, Murtle	1	1	0
Charles J. Burnett, Esq., Old Aberdeen..	0	10	6
Rev. J. Mitford Mitchell	0	5	0
Francis Edmond, Esq., Kingswells	1	0	0
Dr. Stewart, Heathcot	0	10	6
Mrs. Parr, 12, Carden Place	0	5	0
Mrs. Ogilvie Forbes, Boyndlie House, Fraserburgh ..	0	5	0
Rev. William Mearns, D.D., Manse, Oyne	1	1	0
Rev. John Davidson, D.D., Manse, Inverurie	0	10	0
Mrs. Corbet, Bieldside	0	5	0
Mrs. Hargrave, 38, India Street, Edinburgh	0	10	6
Rev. R. W. Barbour, Free Manse, Cults	0	10	6
Miss Scott, Ruthrieston Lodge	0	5	0
Miss Mary Forbes, Freshfield, Cults	0	10	0
P. S., per do.	0	10	0

ADELAIDE.

February 14.—By cash £4

BISHOPS WALTHAM.

February 29, 1884.—By cash .. .. £2 2*s.*

	£	s.	d.
Rev. A. R. Burton	0	10	6
Rev. H. R. Fleming	0	10	6
Rev. W. G. Medlicott	0	10	6
J. E. Padbury, Esq.	0	10	6

BRIGHTON.

January 26, 1884.—By cash .. .. £9 16*s.* 6*d.*

	£	s.	d.
G. Lowe Reid, Esq.	2	2	0
Somers Clarke, Esq.	1	1	0
N. Turbull, Esq.	1	1	0
J. N. Winter, Esq...	1	1	0
Rev. R. Hudson	0	10	6
Rev. C. E. Douglass	1	1	0
H. C. Malden, Esq...	1	1	0
Rev. R. Robertson	1	1	0
Rev. F. T. Hill	1	1	0

	£	s.	d.
Mdlle. de Paris	1	1	0
Miss Cobham	1	1	0
Miss Movill	1	1	0
Archdeacon Hannah	1	1	0
Mrs. Soames	1	0	0

CARDIFF.

Dec. 27, 1883.—By cash .. .. £1 1*s.*

	£	s.	d.
F. J. Evans, Esq.	1	1	0

CHELTENHAM.

Dec. 24, 1883.—By cash .. .. £17 10*s.*

	£	s.	d.
Rev. T. Roberts	1	1	0
The Right Hon. Earl of Ducie	5	0	0
Dr. E. T. Wilson	0	10	0
Rev. W. Hutchinson	0	10	6
Rev. C. M. Chamney	1	1	0
C. Dobell, Esq.	1	1	0
Rev. Canon Bell, D.D.	1	1	0
J. Middleton, Esq.	1	1	0
Rev. Canon Fenn	1	1	0
Miss C. Robinson	0	5	0
Mrs. Litton	1	1	0
Rev. Dr. McCulloch	0	10	6
General Polwhele	0	10	6
J. Walker, Esq.	1	1	0
W. H. Gwinnett, Esq.	1	1	0
Miss Ward	0	10	0
Mrs. Wakefield	1	1	0
Miss Stokes	0	10	0

DUNFERMLINE.

Feb. 7, 1884.—By cash .. .. £8 13*s.* 6*d.*

	£	s.	d.
Thomas Alexander, Esq.	1	0	0
George Birrell, Esq.	0	5	0
Rev. James Brown, Lochgelley	0	5	0
Rev. J. G. Crawford, Limekilns	0	2	6
William Glass, Esq.	0	5	0
Rev. A. Graham, Crossgates	0	5	0
William Inglis, Esq.	0	10	6
Daniel Lamond, Esq.	0	5	0
John Landale, Esq.	1	0	0
James McFarlane, Esq.	0	10	6
Messrs W. and J. McLaren	0	10	6
Rev. Dr. Mitchell	0	2	6
William Reid, Esq.	0	5	0
John Ross, Esq.	0	10	6
Rev. J. M. Shiach	0	5	0
Patrick F. Soutar, Esq.	0	10	6
John Stephenson, Esq.	0	10	6
Andrew Wallace, Esq.	1	0	0
Ex-Provost Walls, Esq.	0	10	6

SUBSCRIPTIONS RECEIVED IN EDINBURGH DURING THE YEAR 1883.

	£	s.	d.
John Watson, Esq., 2, Oswald Road	1	1	0
Robert Gibson, Esq., 9, Bruntsfield Place	1	0	0
A. Skirving, Esq., Croys, Dalbeattie	1	0	0
A. Hamilton, Esq., 35, Queen Street	1	1	0
John Hoyes, Esq., 7, Ainslie Place	2	0	0
Mrs. Hoyes, 7, Ainslie Place	1	0	0
W. F. Burnley, Esq., 24, Ainslie Place	1	0	0
W. G. Dickson, Esq., 3, Royal Circus	1	0	0
Mrs. Mill, 35, Howe Street	1	0	0
Rev. Dr. Stevenson, 9, Oxford Terrace	0	10	0
Miss Crooks, 16, Manor Place	1	0	0
Miss McMicking, 21, Coates Garden	1	1	0
W. J. Ford, Esq., 17, Grosvenor Crescent	1	1	0
Misses Gall, 17, Minto Street	0	2	6
J. J. Rogerson, Esq., Merchiston Castle..	1	0	0
Mrs. A. Stewart, 10, Ettrick Road	0	10	6
Mrs. Mackintosh, 19, Chalmers Street	0	10	0
Dr. Kalley, Campo Verde, 9, Tipperlin Road	0	10	0
Mrs. Gallaway, 1, Drumsheugh Place	1	0	0
Rev. George B. Carr, 30, Pilrig Street	0	5	0
R. B. Stalker, Esq., 6, West Claremont Street	0	10	6
G. C. and J. C. C., Edinburgh	12	0	0
Findlay Anderson, Esq., Inchyra Grange, Polmont ..	1	0	0
F. B. Johnson, Esq., Edina Works, Easter Road ..	1	1	0
Misses Mure, 10, Darnaway Street	0	10	0
E. Hunter, Esq., 5, Great Stuart Street	0	10	0
Misses Stevenson, 13, Randolph Crescent	1	0	0
Patrick Guthrie, Esq., 135, George Street	0	5	0
James Sime, Esq., South Park	1	1	0
Miss Ker, Esq., 11, Merchiston Park	0	10	0
James Syme, Esq., 10, Buckingham Terrace	1	0	0
Mrs. George Brown, 10, Douglas Crescent	0	10	0
Rev. Dr. A. Thomson, 63, Northumberland Street ..	0	5	0
J. T. Brown, Esq., Gibraltar House	1	1	0
James Watson, Esq., 45, Charlotte Square	1	1	0
William Dickson, Esq., 38, York Place	1	1	0
Miss Mackenzie, 16, Moray Place	2	0	0
Rev. Dr. Whyte, 52, Melville Street	1	0	0
Mrs. and Miss Paterson, 3, Coates Crescent	0	10	0
Scott Brothers, 125, Princes Street	0	5	0
Professor A. R. Simpson, 52, Queen Street	1	1	0
Dr. Moir, 52, Castle Street	1	0	0
Dr. Douglas Maclagan, 28, Heriot Row	1	1	0
Mrs. Edmond, 21, Comely Bank	0	5	0
Mrs. Maitland, 9, Walker Street	0	5	0
John Turnbull, Esq., 58, Frederick Street	1	0	0
William Lyon, 51, George Street	1	0	0
Peter Mill, 39, North Bridge	1	0	0
John Bartholomew, Esq., 31, Chambers Street	1	0	0
John A. Howden, Esq., 29, Merchiston Avenue.. ..	1	1	0
Mrs. Miller, 7, St. Margaret's Road	0	10	0
Rev. Dr. Teape, 15, Findhorn Place	0	10	0
Carried forward	£54	5	6

LIST OF SUBSCRIPTIONS.

	£	s.	d.
Brought forward	54	5	6
Andrew Usher & Co., 24, West Nicholson Street ..	0	10	6
D. Jeffrey, Esq., 14, Randolph Crescent..	1	0	0
J. Anderson Henry, Esq., Hay Lodge	0	10	0
G. A. Agnew, Esq., East Warriston House	1	1	0
J. A. Jamieson, Esq., 14, Buckingham Terrace. ..	0	10	0
Rev. David Simpson, F.C. Manse, Lawrence Kirk ..	0	10	6
Miss J. B. Black, Auchentoshen House, Duntocher ..	1	0	0
John R. Norrie, Esq., 102, George Street	0	10	0
Rev. Alex. Luke, F.C., Manse, Broxburn	1	0	0
Rev. Thomas Brown, 16, Carlton Street	0	10	6
R. M. Smith, Esq., 4, Bellevue Crescent..	1	1	0
Dr. J. H. Balfour, Inverleith House	0	10	0
James Steuart, W.S., 8, Doune Terrace	0	10	0
The Bishop of Edinburgh, 56, Manor Place	0	5	0
Miss Buchanan, 18, Lansdowne Crescent	0	2	6
John Drybrough, 15, Coates Crescent	0	10	6
Dean Montgomery, 17, Athole Crescent	0	5	0
Alex. Padon, Esq., 5, Hart Street	0	10	0
John Kennedy, Esq., 71, Great King Street	1	0	0
Horatius Bonar, Esq., W.S., 15, Hill Street	0	10	6
Mrs. Wood, 11, Clarendon Crescent	0	5	0
David S. Dickson, Esq., W.S., 1, Thistle Court.. ..	0	10	6
J. H. Wilson, D.D., 1, East Castle Road	0	5	0
George Seton, Esq., St. Bennets	0	5	0
Mrs. Colonel MacDougall, Woodburn, Canaan Lane ..	1	0	0
J. R. Stewart, Esq., 10, Salisbury Road..	0	10	0
Thomas Nelson & Sons, Parkside..	1	0	0
Robert Younger, St. Ann's Brewery	0	10	6
Sir James Falshaw, Bart., 14, Belgrave Crescent ..	1	0	0
John Macnair, Esq., 33, Moray Place	0	10	0
W. J. Duncan, Esq., 29, Abercromby Place	1	1	0
William Robson, Esq., 8, George Street	0	5	0
Rev. J. C. Macphail, Pilrig Manse	0	5	0
J. M. Balfour Melville, Esq., Pilrig House	0	10	6
Is. Anderson Henry, Esq., Hay Lodge	0	10	6
J. T. Wilson, Esq., Restalrig House	0	10	0
Mrs. Hunter, 18, Abercromby Place	0	2	6
Mrs. Chisholm, March Hall, Dalkeith Road	1	0	0
Thomas A. G. Balfour, M.D., 51, George Street ..	0	5	0
John Scott Moncrieff, Esq., 19, Lynedoch Place ..	0	10	0
Wm. Inglis, Esq., 12, Dick Place, Grange	0	5	0
I. M. McCandlish, Esq., 27, Drumsheugh Gardens ..	2	2	0
Rev. D. McDougall, Rothiemurchus Manse, Aviemore..	0	10	6
Rev. John Sinclair, 2, Learmouth Terrace	1	1	0
A. Elliot, Esq., 17, Princes Street..	0	10	0
J. Thin, Esq., 54, South Bridge (1882–83)	1	0	0
	£82	16	6

EDINBURGH LADIES' AUXILIARY.

COLLECTED BY MISS DALGLEISH, 8, ATHOLL CRESCENT, EDINBURGH.

	£	s.	d.
Mrs. Hastie, Luscar, Dunfermline	1	0	0
Dr. Duncan, 8, Ainslie Place, Edinburgh	1	1	0
Rev. Dr. Stuart, 7, Northumberland Street, Edinburgh	0	10	6
Mrs. Harvie Brown, Dunipace House, Larbert	0	10	6
C. A. McVean, Esq., 42, Belmont Gardens, Hillhead, Glasgow	0	10	6
John Macfie, Esq., 14, Hope Terrace, Edinbugh ..	0	10	6
L. Dalgleish, Esq., 22, Coates Crescent, Edinburgh ..	0	10	6
Mrs. Dalgleish, 8, Atholl Crescent, Edinburgh ..	0	10	6
Miss Dalgleish, do. do. ..	0	10	6
John J. Dalgleish, Esq., do. do. ..	0	10	6
Dr. Craig Maclagan, 5, Coates Crescent, Edinburgh ..	0	10	6
Mrs. Lang and Miss Duncan	0	7	6

HITCHIN.

Jan. 25.—By cash .. .. £5 5*s.*

	£	s.	d.
Mrs. Smyth	0	10	6
J. Gutward, Esq.	0	10	6
J. Priest, Esq.	0	10	6
F. Seebohm, Esq.	1	1	0
J. H. Tuke, Esq.	1	1	0
W. Ransom, Esq.	1	1	0
J. Pollard, Esq.	0	10	6

LEEDS.

	£	s.	d.
March 27.—By cash	25	0	0

LICHFIELD.

Jan. 28.—By cash .. .. £2 2*s.* 0*d.*
Feb. 4.—By cash .. .. £6 1*s.* 0*d.*
Feb. 11.—By cash .. .. £1 10*s.* 3*d.*

	£.	s.	d.
Mrs. F. Hinckley	0	10	0
Mrs. Charles Gresley	0	10	0
Mrs. Henry Bridgeman	0	10	6
C. W. Browning, Esq.	0	10	6
Miss E. G. Petit	0	10	6
Rev. Geo. Poole	0	10	0
J. C. Richardson, Esq.	0	10	6
Rev. John Graham (1882–83)	1	0	0
H. M. Morgan, Esq.	0	10	6
The Very Rev. Dean of Lichfield	2	2	0

LONDONDERRY. (Supplementary.)

March 21.—By cash .. .. £3 13*s.* 6*d.*

	£	*s.*	*d.*
James McCorkell, Esq.	1	1	0
Walter Bernard, Esq.	1	1	0
John Cowie, Esq.	0	10	6
John McAdoo, Esq.	0	10	6
Alexander McVicker, Esq.	0	10	6

MANCHESTER.

1883.

	£	*s.*	*d.*
Previously remitted	70	8	6
Dec. 20.—By cheque	1	1	0
Total for 1883 ..	£71	9	6

1884.

	£	*s.*	*d.*
Jan. 11.—By cash	2	10	0
„ 14.—By cash	10	10	0
Feb. 29.—By cheque	8	0	0
Mar. 5.—By cash	2	2	0
By cash	2	2	0
Total for 1884 ..	£25	4	0

1883.	£	*s.*	*d.*
*z*Henry Lowe, Esq.	1	1	0
Quarterly Statements, S. R. H. (omitted in December list) ..	0	4	6
1884.			
*z*F. W. Grafton, Esq., M.P.	2	2	0
*z*G. Robinson, Esq.	1	1	0
*z*W. Gray, Esq.	1	1	0
*z*W. Slater, Esq.	1	1	0
*z*James Barlow, Esq. ..	1	1	0
*z*J. R. Barlow, Esq.	1	1	0
*z*John Robinson, Esq. ..	2	2	0
*z*Mrs. Cruso	1	1	0
*z*Miss Lees	0	10	6

	£	*s.*	*d.*
*a*R. W. Barnes, Esq ..	0	10	6
*a*G. H. Goldsmith, Esq. ..	1	1	0
*a*Ernest Bellhouse, Esq. ..	1	1	0
*a*Walter Bellhouse, Esq. ..	1	1	0
*a*B. March, Esq.	2	2	0
*a*H. B. Jackson, Esq. ..	2	2	0
*a*Rev. W. Symonds	0	10	6
*a*Rev. W. J. Smith	0	10	6
*a*H. Calvert, Esq.	0	10	6
*a*T. Rhymer, Esq.	1	1	0
*a*C. P. Allen, Esq.	1	1	0
*a*E. Hardcastle, Esq. ..	1	1	0
*a*R. Baxendall, Esq.	1	1	0
*a*G. Gauthorp, Esq.	0	10	6

SYDNEY.

Dec. 20, 1883.—By cash .. .. £5.
Jan. 9, 1884.—By cash .. .. £3 6*s.*

	£	*s.*	*d.*
Lady Hay	1	1	0
John Kent, Esq.	1	1	0
Rev. W. Moore White, LL.D	2	2	0
Lady Allen	1	1	0
Mrs. Allen	1	1	0
Mrs. W. Boyce	1	1	0

LIST OF SUBSCRIPTIONS.

TUNBRIDGE WELLS.

Feb. 25, 1884.—By cash			£5 13*s.*
	£	*s.*	*d.*
1883.—Miss Gordon	0	10	0
W. F. Browell, Esq.	1	1	0
1884.—Rev. H. J. Rhodes	1	1	0
Geo. Bertram, Esq.	1	1	0
Septimus Scott, Esq.	2	0	0

WESTON-SUPER-MARE.

Dec. 14, 1883.—By cash	£2	7*s.*	0*d.*
„ 27, 1883.—By cash	£0	10*s.*	6*d.*
	£	*s.*	*d.*
Miss McAdam	0	2	6
Rev. W. Smith Tomkins	0	10	6
Rev. T. Birkett	0	5	0
Major-Gen. Davidson	0	10	6
Mrs. Mullings	0	10	6
Miss Haslewood	0	10	6

WHITBY.

Feb. 18, 1884.—By cash £2

LECTURES DELIVERED.

By Rev. Henry Geary.

1883.	£	*s.*	*d.*
Oct. 23.—Reigate	6	5	9
Nov. 1.—St. Augustine's, Highbury	5	5	0
„ 8.—Brighton Town Hall, two lectures	19	0	0
„ 9.—Brighton College	7	3	6
„ 24.—Cheshunt College	7	15	8
„ 30.—Brighton, Miss Prangley	6	18	0
Dec. 13.—Guildford	5	8	6
1884.			
Jan. 10.—Herne Bay	5	15	0
„ 22.—Kilburn Town Hall	15	0	0
„ 24.—Bedford, two lectures	6	2	7
„ 28.—Birmingham (two lectures)	29	15	5
„ 29.—Lichfield Palace	13	6	6
„ 30.—Derby (Lecture and Sermon)	19	1	5
„ 31.—Nottingham	6	2	1
Feb. 1.—Newark	4	8	9
„ 8.—Stamford Hill Congregational Church ..	7	16	6
„ 19.—Trinity Schools, Hampstead	5	5	0
„ 21.—Tunbridge Wells (two lectures)	17	9	7
March 6.—Chelmsford (two lectures)	10	17	0
„ 13.—Felstead School	9	19	0
„ 20.—Maidstone	11	0	9
„ 25.—Westerham	9	13	0

By Rev. W. K. Dickenson.

Dec. 15.—Kirkcaldy 1 11 0

By Sir Charles Warren.

Jan. 29.—Scarborough Lodge 12 0 0

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AMBLESIDE: Rev. H. B. Rawnsley, Wray Vicarage.
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BEDFORD: Rev. Canon Haddock.
BELFAST: Rev. the President of Queen's College.
BIRKENHEAD: Rev. J. T. Kingsmill, St. Aidan's College.
BIRMINGHAM: Rev. F. Dell.
BISHOP'S WALTHAM: Rev. H. R. Fleming.
BLACKBURN: Herbert Birch, Esq., and Rev. A. B. Grosart.
BLAIRGOWRIE: W. S. Soutar, Esq.
BODMIN: S. Hicks, Esq.
BOLTON: George Monk, Esq.
BRECON: Richard Mills, Esq.
BRIGHTON: Rev. C. E. Douglass.
BURNLEY: Alfred Strange, Esq.
BURY: *Hon. Treas.*—Rev. Canon J. Hornby; *Hon. Sec.*—Rev. D. Walmsley.
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CHELMSFORD: Rev. G. B. Hamilton.
CHELTENHAM: Dr. E. Wilson.
CHESTER: Rev. J. Davidson.
CHIPPENHAM: A. T. Keary, Esq.
CITY AND COUNTY OF CORK: H. S. Perry, Esq., Monkstown.
CLIFTON and BRISTOL: Rev. C. H. Wallace.
COLCHESTER: Rev. N. P. Gepp.
CROYDON: J. W. Janson, Esq.
DARLINGTON: J. P. Pritchett, Esq.
DEVONPORT: J. Venning, Esq.

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DUNDEE: *Hon. Treas.*—Alex. Scott, Esq.
DUNFERMLINE: Rev. A. Graham, Crossgates.
EASTBOURNE: Rev. H. R. Whelpton.
EDINBURGH: Rev. W. Lindsay Alexander, D.D., William Dickson, Esq., F.R.S.E., and T. B. Johnston, Esq., F.R.G.S., 16, So. St. Andrew Street.
EPSOM: Miss Hislop.
EXETER: Rev. Prebendary Acland, Broad Clyst, and Rev. W. David.
FAIRFIELD: S. J. A. Barrow-Clough.
FALMOUTH, for the County of Cornwall: A. Lloyd Fox.
FROME:
GAZA: J. G. Pickard, Esq.
GLASGOW: Rev. W. P. Dickson, D.D., Rev. Donald Macleod, D.D., A. B. M'Grigor, Esq., LL.D., and James Andrew Allan, Esq.
GREENOCK: Edward Blackmore, Esq.

GUILDFORD: Colonel Parkes.
HASTINGS: J. E. Liddiard, Esq.
HEREFORD: Rev. F. S. Stooke-Vaughan.
HERTFORD: W. M. Armstrong, Esq.
HITCHIN: J. Pollard, Esq.
HOLYHEAD: Rev. W. R. Jones.
HUDDERSFIELD: Henry Barker, Esq.
HULL: J. P. Bell, Esq., M.D.
IPSWICH:
IRELAND:—DUBLIN: *Hon. Secs.*—Rev. G. T. Stokes, Blackrock; Denis Crofton, Esq. *Treasurers.*—The Munster Bank.
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LEAMINGTON: Rev. J. Johnson, M.A.
LEDBURY: Rev. F. Salter Stooke-Vaughan.
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LINCOLN: Rev. A. R. Maddison.
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MANCHESTER: Rev. W. F. Birch, and Rev. Canon Crane. *Treasurer.*—Oliver Heywood, Esq., Manchester and Salford Bank, St. Ann's Street.
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SISSINGHURST: Rev. W. Peterson.
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SOUTHSEA: Rev. F. Baldey.
SOWERBY: Rev. A. L. W. Bean.
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ST. HELENA: Rev. Canon Lambert.
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TORQUAY: Rev. Preb. Wolfe.
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WEYMOUTH: G. Ff. Eliot, Esq.
WHITBY: E. W. Chapman, Esq.
WILLESDEN: Rev. J. Crane Wharton.
WINCHESTER: Rev. R. P. Hutchinson.
WINDSOR: Rev. Stephen Hawtrey.
WOLVERHAMPTON: Mr. J. McD., Roebuck.
WOODSTOCK: Ontario.—William Edwards, sen., Esq.
WORCESTER: Rev. Francis J. Eld.
YEOVIL: Rev. Abel Phillips, Holy Trinity Vicarage.

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,, Mr. Albert Thompson, 24, Elliot Street.
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WESTON: Mr. Robbins, High Street.
WHITBY: Mr Reed.
WINCHESTER: Messrs. Jacob and Johnson.
WOLVERHAMPTON: Mr. J. M'D. Roebuck.
YORK: Mr. William Sessions.

ERRATA.

1883.

Page 67, line 36.—*After* were, *read* made.
,, 81, ,, 12.—*For* alternative, *read* alternate.
,, 81, ,, 21.—*For* instead of, *read* as equal to.

For Rev. W. Fookes 10*s*., *read* 10*s*. 6*d*.
,, Mrs. Peter 10*s*., *read* 10*s*. 6*d*.

For E. Sterling £1 1*s*., *read* E. Sterling Ely, £1 1*s*.

FALMOUTH.

The name of Miss Huttler, £1, was omitted in the last list.

LIST OF DONATIONS AND SUBSCRIPTIONS.

FROM MARCH 13TH TO JUNE 23RD, 1884, INCLUSIVE.

a denotes Annual Subscriber.

*** If any omission or mistake be observed in the following lists, the Secretary will be very glad to be informed of it, and will rectify the error in the next *Quarterly Statement*.

	£	s.	d.
Hon. G. W. Allan	1	1	0
Per Messrs. Allen & Co. (American subscribers) ..	3	13	6
Abbé de St. Aignan	0	5	0
*a*Mrs. Archard	0	10	6
*a*Rev. J. D. Addison	0	10	0
*a*Mrs. Ashmead	0	10	6
*a*Rev. Canon Allen	1	1	0
— Allport, Esq.	0	5	0
*a*R. C. Allen, Esq.	0	10	6
*a*A. Kemp Brown, Esq. ..	0	10	6
*a*E. L. Barker, Esq.	0	10	6
*a*Rev. D. C. Boyd	0	10	6
*a*John Bewley, Esq.	1	1	0
*a*W. Butler, Esq.	0	10	0
*a*R. Burlingham, Esq.	1	1	0
*a*Rev. D. A. Bastow	0	10	6
*a*A. C. Bartholomew, Esq. ..	0	10	6
*a*Rev. F. Bellamy	1	0	0
*a*G. R. Blackett, Esq.	2	2	0
*a*E. Beveridge, Esq.	2	0	0
*a*C. Bishop, Esq.	1	1	0
*a*Mrs. Scott Banhus	0	10	6
*a*Mrs. Birkbeck	1	1	0
*a*Rev. J. Bonar	1	0	0
*a*Messrs. J. and J. Bonar ..	1	0	0
*a*W. J. Bowyer, Esq.	0	10	6
*a*Miss H. Barlow	2	2	0
*a*J. Brown, Esq.	1	1	0
*a*I. Braithwaite, Esq.	5	0	0
*a*Captain Bennett	1	1	0
G. K. Cannington, Esq. (Geological Survey)	0	5	0
*a*W. T. Church, Esq.	1	1	0
Lord Eustace Cecil	5	0	0
*a*Mrs. Crawford	1	1	0
*a*Rev. G. F. Chester	0	10	6
*a*A. Carson, Esq.	1	10	6
Carried forward	£42	8	6

	£	s.	d
Brought forward	42	8	6
*a*Miss Copley (1883–84) ..	1	0	0
*a*Miss Corrie	1	1	0
*a*Miss M. A. Corrie	1	1	0
*a*Rev. Dr. Cranage	1	0	0
*a*Miss Chubb	0	10	0
*a*Dr. Cooke	0	10	0
*a*D. Crofton, Esq.	1	0	0
*a*Rev. E. M'Cready	1	1	0
*a*Rev. C. P. Clarke	1	1	0
*a*Master of Clare	1	1	0
*a*Miss Deacon	2	2	0
*a*W. R. Davies, Esq.	1	1	0
*a*Miss Drabwell	0	10	6
*a*Mrs. Dawes	1	1	0
*a*F. A. Eaton, Esq.	1	1	0
*a*W. Ewing, Esq.	0	10	0
*a*Rev. W. Farrer	2	2	0
*a*Rev. G. H. Fielding	0	10	6
*a*C. A. Flint, Esq.	1	1	0
*a*Rev. A. M. Foster	1	1	0
*a*Miss Fripp	0	10	6
*a*R. Foster, Esq.	0	10	6
*a*Bishop of Fredericton ..	1	1	0
*a*Rev. J. Gamble	0	10	6
*a*Rev. R. B. Girdlestone ..	1	1	0
*a*Major Grover, R.E.	1	1	0
*a*A. R. Gransille, Esq.	0	10	6
*a*W. C. Gwynne, Esq.	0	10	6
*a*Rev. J. P. Hobson	0	10	6
*a*Rev. F. E. Heygate	0	10	6
*a*Rev. J. Hewetson	0	10	0
*a*Rev. M. Hill	1	1	0
*a*G. F. Hooper, Esq.	0	10	6
*a*C. Hill, Esq.	1	0	0
*a*H. Hitchcock, Esq.	1	0	0
*a*R. G. Hobbes, Esq.	0	10	6
*a*J. Honeyman, Esq.	1	1	0
Carried forward	£75	3	0

	£	s.	d.
Brought forward	75	3	0
*a*Professor Huddlestone ..	1	1	0
*a*T. Hughes, Esq.	1	0	0
*a*J. E. Inwood, Esq.	0	10	6
*a*R. Janson, Esq.	1	1	0
*a*Mrs. Johnson	1	1	0
*a*E. Kimber, Esq.	1	1	0
*a*Rev. A. Kennion	0	10	6
*a*G. H. Lawrence, Esq. ..	1	1	0
*a*Mr. and Mrs. Lambert ..	2	2	0
*a*T. H. Lewis, Esq.	0	10	6
W. J. Lecoq, Esq.	2	0	0
Gen. Sir H. Lefroy (1883–84)	2	2	0
Col. Locock, R.E.	5	0	0
Rev. R. Lovett (two years) ..	1	1	0
*a*D. S. Lloyd, Esq.	0	10	6
Rev. Dr. Löwy (1884–85) ..	1	1	0
*a*Col. Maingay	1	1	0
*a*Rev. A. MacKennel	1	1	0
*a*Mrs. Maxwell	1	1	0
*a*Lieut. Mantell, R.E.	1	1	0
*a*S. Symons Martyn, Esq. ..	1	1	0
*a*H. G. Martyn, Esq.	0	10	6
*a*Rev. S. F. Moran	1	1	0
*a*Gen. Man	0	10	6
*a*Mrs. Mitchell	1	1	0
*a*M. Moniquet	0	10	6
*a*Rev. R. H. Morgan	0	10	6
Miss Meighen	0	2	6
*a*Rev. F. P. Napier	1	1	0
*a*Mrs. Newcombe	0	10	6
*a*Rev. H. Nelson	0	10	0
*a*Rev. W. D. Newnham ..	1	1	0
Do. (Geological Survey) ..	1	1	0
*a*R. M. Norman, Esq.	1	1	0
Rev. C. Olsen (two years) ..	1	0	0
*a*Mrs. Ormond	0	10	0
*a*A. Peckover, Esq.	1	1	0
*a*Rev. E. S. Prout	0	10	6
*a*John Penhall, Esq.	1	1	0
Col. Puget (two years) ..	2	0	0
*a*S. Pinsent, Esq. (two years) ..	2	2	0
*a*Rev. R. W. Prichard	0	10	6
Carried forward	£120	7	0

	£	s.	d.
Brought forward	120	7	0
*a*W. Ross, Esq.	1	0	0
*a*T. L. Pierce	0	10	6
*a*J. Pilling, Esq.	0	10	6
*a*T. Pullman, Esq.	1	1	0
*a*Rev. L. Rumsey	0	10	6
*a*Mrs. Robson	1	1	0
*a*Rev. R. Rutherford	0	10	6
*a*Rev. Canon Robinson ..	0	10	6
*a*Dean of Ripon	2	0	0
Lord Sidmouth	1	0	0
*a*Mrs. Newman Smith	3	3	0
H. Smith, Esq.	0	15	0
*a*Miss Waldo Sibthorpe ..	1	1	0
*a*Rev. J. Stewart	0	10	6
*a*Rev. B. S. Stanhope	1	1	0
*a*Rev. A. C. Smith	0	10	6
*a*The Misses Scott	1	1	0
J. G. Strickland, Esq. ..	1	11	0
*a*Prof. Sanday	1	1	0
*a*Rev. W. P. Stevenson ..	0	10	6
*a*Rev. J. K. Scott	0	10	6
*a*Gen. Stuart	2	2	0
*a*W. E. Stevenson, Esq. ..	1	1	0
*a*Philip Smith, Esq.	1	0	0
*a*H. Crichton Stuart, Esq. ..	1	1	0
*a*C. T. Varley, Esq.	0	11	6
*a*Hon. A. Vidal	1	1	0
H. V.	10	10	0
*a*Rev. W. H. Walford	2	2	0
*a*J. Walkington, Esq.	1	0	0
*a*G. F. Watts, Esq.	1	1	0
*a*Rev. J. Whitehead	1	1	0
*a*Rev. H. Wilson	0	10	6
*a*Miss Wakeham	5	5	0
*a*Miss Watson	1	1	0
*a*W Waterfall, Esq.	0	10	6
*a*E. C. W.	1	0	0
*a*Mrs. Wodehouse	0	10	6
*a*H. B. S. Wodehouse, Esq. ..	1	1	0
*a*Rev. H. R. Ware	1	0	0
*a*Lady A. C. Wynne	0	10	6
*a*C. Walton, Esq.	1	1	0
Total	£175	17	0

ERRATA.

In the *Quarterly Statement* for October, 1883, *for* J. S. Green *read* I. Lardner Green. *For* Rev. W. K. Dickenson *read* W. K. Dickson, Esq.

LOCAL SOCIETIES.

	£	s.	d.
Ayr	2	16	8
Bolton	8	4	0
Brighton	2	12	6
Cardiff	4	8	6
Darlington	26	11	6
Edinburgh Local	85	0	0
Exeter	3	13	6
Glasgow	2	0	0
Greenock	14	13	0
Guildford	7	12	0
Carried forward	£157	11	8

	£	s.	d.
Brought forward	157	11	8
Leeds	25	0	0
Lichfield	1	10	0
Londonderry	3	13	6
Norwich	18	18	0
Manchester	4	4	0
Oxford	5	5	0
Reading	2	1	1
Stroud	5	15	6
Winchester	2	2	0
Total	£226	0	9

FROM LECTURES.

Per Rev. H. Geary .. .. £22 8*s.* 5*d.*

SUMMARY.

	£	s.	d
Subscriptions and Donations	175	17	0
Local Societies	226	0	9
Lectures	22	8	5
Maps, Memoirs, and Books	313	16	6
	£738	2	8

LIST OF AYR SUBSCRIBERS, 1883–4.

June 18.—By cash .. .. £2 16*s.* 8*d.*

	£	s.	d.
Miss Aytoun	0	10	0
D. Currie, Esq.	0	5	0
John Flint, Esq.	0	10	6
Campbell Douglas, Esq.	0	10	6
R. D. Murdoch, Esq.	1	1	0

LIST OF SUBSCRIPTIONS.

BOLTON.

March 29.—By cash .. .. £8 4*s.*

	£	*s.*	*d.*
Rev. M. Maynard	1	1	0
Mr. Stubbs	1	0	0
Rev. W. Ribson	0	10	6
Miss Bates	0	2	6
Mr. Monk	0	10	6

LECTURE AT TAMWORTH.

	£	*s.*	*d.*
Rev. J. King, M.A.	4	9	0

BRIGHTON ASSOCIATION.

June 5.—By cash .. .. £2 12*s.* 6*d.*

	£	*s.*	*d.*
Rev. W. S. Fowler	1	1	0
Rev. Thos. Calvert	0	10	6
H. Hebbert, Esq.	1	1	0

CARDIFF.

June 23.—By cash .. .. £4 8*s.* 6*d.*

	£	*s.*	*d.*
Charles Truscott, Esq.	0	10	6
Thomas Cordes, Esq...	1	1	0
James McCrath, Esq...	1	1	0
William Adams, Esq...	1	1	0
Thomas Pratt, Esq.	0	10	6
3 maps	0	4	6

DARLINGTON.

May 19.—By cash .. .. £26 11*s.* 6*d.*

	£	*s.*	*d.*
Arthur Pease, Esq., M.P.	10	0	0
Mrs. Gurney Pease..	10	0	0
Sir J. W. Pease, M.P.	5	0	0
H. F. Pease, Esq.	1	1	0
Miss Priddeux	0	10	6

SUBSCRIPTIONS RECEIVED IN EDINBURGH DURING THE YEAR 1883.

April 30th.—By cash £85

	£	s.	d.
John Watson, Esq., 2, Oswald Road	1	1	0
Robert Gibson, Esq., 9, Bruntsfield Place	1	0	0
A. Skirving, Esq., Croys, Dalbeattie	1	0	0
A. Hamilton, Esq., 35, Queen Street	1	1	0
John Hoyes, Esq., 7, Ainslie Place	2	0	0
Mrs. Hoyes, 7, Ainslie Place	1	0	0
W. F. Burnley, Esq., 24, Ainslie Place	1	0	0
W. G. Dickson, Esq., 3, Royal Circus	1	0	0
Mrs. Mill, 35, Howe Street	1	0	0
Rev. Dr. Stevenson, 9, Oxford Terrace	0	10	0
Miss Crooks, 16, Manor Place	1	0	0
Miss McMicking, 21, Coates Garden	1	1	0
W. J. Ford, Esq., 17, Grosvenor Crescent	1	1	0
Misses Gall, 17, Minto Street	0	2	6
J. J. Rogerson, Esq., Merchiston Castle..	1	0	0
Mrs. A. Stewart, 10, Ettrick Road	0	10	6
Mrs. Mackintosh, 19, Chalmers Street	0	10	0
Dr. Kalley, Campo Verde, 9, Tipperlin Road	0	10	0
Mrs. Gallaway, 1, Drumsheugh Place	1	0	0
Rev. George B. Carr, 30, Pilrig Street	0	5	0
R. B. Stalker, Esq., 6, West Claremont Street	0	10	6
G. C. and J. C. C., Edinburgh	12	0	0
Findlay Anderson, Esq., Inchyra Grange, Polmont ..	1	0	0
F. B. Johnson, Esq., Edina Works, Easter Road ..	1	1	0
Misses Mure, 10, Darnaway Street	0	10	0
E. Hunter, Esq., 5, Great Stuart Street	0	10	0
Misses Stevenson, 13, Randolph Crescent	1	0	0
Patrick Guthrie, Esq., 135, George Street	0	5	0
James Sime, Esq., South Park	1	1	0
Miss Ker, Esq., 11, Merchiston Park	0	10	0
James Syme, Esq., 10, Buckingham Terrace	1	0	0
Mrs. George Brown, 10, Douglas Crescent	0	10	0
Rev. Dr. A. Thomson, 63, Northumberland Street ..	0	5	0
J. T. Brown, Esq., Gibraltar House	1	1	0
James Watson, Esq., 45, Charlotte Square	1	1	0
William Dickson, Esq., 38, York Place	1	1	0
Miss Mackenzie, 16, Moray Place	2	0	0
Rev. Dr. Whyte, 52, Melville Street	1	0	0
Mrs. and Miss Paterson, 3, Coates Crescent	0	10	0
Scott Brothers, 125, Princes Street	0	5	0
Professor A. R. Simpson, 52, Queen Street	1	1	0
Dr. Moir, 52, Castle Street	1	0	0
Dr. Douglas Maclagan, 28, Heriot Row	1	1	0
Mrs. Edmond, 21, Comely Bank	0	5	0
Mrs. Maitland, 9, Walker Street	0	5	0
John Turnbull, Esq., 58, Frederick Street	1	0	0
William Lyon, 51, George Street	1	0	0
Peter Mill, 39, North Bridge	1	0	0
John Bartholomew, Esq., 31, Chambers Street	1	0	0
John A. Howden, Esq., 29, Merchiston Avenue.. ..	1	1	0
Mrs. Miller, 7, St. Margaret's Road	0	10	0
Rev. Dr. Teape, 15, Findhorn Place	0	10	0
Andrew Usher & Co., 24, West Nicholson Street ..	0	10	6
			5

	£	s.	d.
D. Jeffrey, Esq., 14, Randolph Crescent..	1	0	0
J. Anderson Henry, Esq., Hay Lodge	0	10	0
G. A. Agnew, Esq., East Warriston House	1	1	0
J. A. Jamieson, Esq., 14, Buckingham Terrace.. ..	0	10	0
Rev. David Simpson, F.C. Manse, Lawrence Kirk ..	0	10	6
Miss J. B. Black, Auchentoshen House, Duntocher ..	1	0	0
John R. Norrie, Esq., 102, George Street	0	10	0
Rev. Alex. Luke, F.C., Manse, Broxburn	1	0	0
Rev. Thomas Brown, 16, Carlton Street..	0	10	6
R. M. Smith, Esq., 4, Bellevue Crescent..	1	1	0
Dr. J. H. Balfour, Inverleith House	0	10	0
James Steuart, W.S., 8, Doune Terrace	0	10	0
The Bishop of Edinburgh, 56, Manor Place	0	5	0
Miss Buchanan, 18, Lansdowne Crescent	0	2	6
John Drybrough, 15, Coates Crescent	0	10	6
Dean Montgomery, 17, Athole Crescent	0	5	0
Alex. Padon, Esq., 5, Hart Street	0	10	0
John Kennedy, Esq., 71, Great King Street	1	0	0
Horatius Bonar, Esq., W.S., 15, Hill Street	0	10	6
Mrs. Wood, 11, Clarendon Crescent	0	5	0
David S. Dickson, Esq., W.S., 1, Thistle Court.. ..	0	10	6
J. H. Wilson, D.D., 1, East Castle Road	0	5	0
George Seton, Esq., St. Bennets	0	5	0
Mrs. Colonel MacDougall, Woodburn, Canaan Lane ..	1	0	0
J. R. Stewart, Esq., 10, Salisbury Road..	0	10	0
Thomas Nelson & Sons, Parkside..	1	0	0
Robert Younger, St. Ann's Brewery	0	10	6
Sir James Falshaw, Bart., 14, Belgrave Crescent ..	1	0	0
John Macnair, Esq., 33, Moray Place	0	10	0
W. J. Duncan, Esq., 29, Abercromby Place	1	1	0
William Robson, Esq., 8, George Street	0	5	0
Rev. J. C. Macphail, Pilrig Manse	0	5	0
J. M. Balfour Melville, Esq., Pilrig House	0	10	6
Is. Anderson Henry, Esq., Hay Lodge	0	10	6
J. T. Wilson, Esq., Restalrig House	0	10	0
Mrs. Hunter, 18, Abercromby Place	0	2	6
Mrs. Chisholm, March Hall, Dalkeith Road	1	0	0
Thomas A. G. Balfour, M.D., 51, George Street ..	0	5	0
John Scott Moncrieff, Esq., 19, Lynedoch Place ..	0	10	0
Wm. Inglis, Esq., 12, Dick Place, Grange	0	5	0
I. M. McCandlish, Esq., 27, Drumsheugh Gardens ..	2	2	0
Rev. D. McDougall, Rothiemurchus Manse, Aviemore..	0	10	6
Rev. John Sinclair, 2, Learmouth Terrace	1	1	0
A. Elliot, Esq., 17, Princes Street..	0	10	0
J. Thin, Esq., 54, South Bridge (1882–83)	1	0	0

EXETER.

May 8.—By cash .. .. £3 13*s.* 6*d.*

	£	s.	d.
Rev. Precentor Cook (1884)	1	1	0
Mrs. Corfe	0	10	6
Rev. P. L. D. Acland (1883–84)	2	2	0

LIST OF SUBSCRIPTIONS.

GLASGOW.

June 23.—By cash.. .. .. £2

	£	s.	d.
J. H. Allan, Esq.	2	0	0

GREENOCK.

June 4.—By cash .. .. £14 13*s.*

	£	s.	d.
Robert Binnie, Esq.	1	1	0
G. R. Macdougall, Esq.	0	10	6
Edward Blackmore, Esq.	1	1	0
James Stewart, Esq., M.P.	1	1	0
William McClure, Esq.	1	1	0
W. W. Adamson, Esq.	0	10	6
D. MacDougall, Esq.	1	1	0
D. Macdonald, Esq.	1	1	0
J. M. Hutchison, Esq.	0	10	6
Colin S. Caird, Esq.	1	1	0
Rev. Alex. Walker, Millport	0	10	6
John Marquis, Esq.	1	1	0
Robert Little, Esq...	1	1	0
J. H. Carmichael, Esq.	0	10	6
Mrs. Andrew Carmichael	1	1	0
Thomas Carmichael, Esq.	0	10	0
J. Macgregor, Esq...	1	1	0

GUILDFORD.

April 19.—By cash .. .. £7 12*s.*

	£	s.	d.
H. Gardner, Esq.	0	10	6
Colonel Mann	0	10	6
Mr. D. Williamson	0	10	6
Mr. W. Williamson	0	10	6
R. C. Capron, Esq...	0	10	6
Rev. F. Paynter	0	10	6
Capt. Campbell	0	10	6
Miss Webb	0	5	0
Mrs. Valentine Richards	0	10	6
Mrs. O'Connell	0	10	6
R. F. Shephard, Esq.	0	10	6
Sir H. Lawrence, K.C.B.	1	1	0
Col. E. H. Parke	0	10	6

LIST OF SUBSCRIPTIONS.

LEEDS.

	£	s.	d.
March 27.—By cash	25	0	0

LICHFIELD.

May 1.—By cash .. .. £1 10*s.*

	£	s.	d.
Mrs. Seckham	0	10	0
Mrs. Bagnall	1	0	0

LONDONDERRY.

March 21.—By cash .. .. £3 13*s.* 6*d.*

	£	s.	d.
James McCorkell, Esq.	1	1	0
Walter Bernard, Esq.	1	1	0
John Cowie, Esq.	0	10	6
John McAdoo, Esq.	0	10	6
Alexander McVicker, Esq.	0	10	6

MANCHESTER.

April 10.—By cheque .. .. £3 3*s.*
May 28.—By cheque .. .. £1 1*s.*

	£	s.	d.
*a*Rev. Canon Woodhouse	0	10	6
*a*Richard Armistead, Esq.	0	10	6
*a*John Krauss, Esq.	1	1	0
*a*Rev. W. F. Birch	1	1	0
*a*G. Wilson Rigg, Esq.	0	10	6
*a*Mrs. Gillmore	0	10	6

NORWICH.

June 13, 1884.—By cash.. .. .. .. £18 18*s.*

	£	s.	d.		£	s.	d.
Rev. R. B. P. Kidd	0	10	6	G. C. Eaton, Esq.	0	10	6
Rev. Hinds Howell	0	10	6	Public Library	0	10	6
Rev. H. Petley	0	10	6	Rev. F. Hildyard	0	10	6
The Very Rev. the Dean of Norwich	2	2	0	Mrs. Hildyard	0	10	6
J. J. Winter, Esq.	1	1	0	Rev. W. N. Ripley	2	2	0
C. R. Gilman, Esq.	1	1	0	Rev. W. R. Collett	1	1	0
Rev. W. Hudson	0	10	6	Rev. G. A. Crookshank ..	0	10	6
Mrs. Hudson	0	10	6	Chas. Dix, Esq...	0	10	6
E. K. Harvey, Esq.	1	1	0	R. Geldart, Esq.	0	10	6
H. S. Patteson, Esq.	1	1	0	Rev. C. R. Manning	0	10	6
Rev. W. Kennion	1	1	0	Rev. W. F. Creeny	0	10	6
				Mrs. James Coleman	1	1	0

LIST OF SUBSCRIPTIONS.

OXFORD.

April 21.—By cash .. .. £5 5*s.*

READING.

June 20.—By cash .. .. £2 1*s.* 1*d.*

	£	*s.*	*d.*
Messrs. Philbrick & Co.	0	10	6
Mrs. Tufnell	0	10	0
Rev. W. Payne	0	10	6
Thos. Hawkins, Esq.	0	10	6

STROUD, GLOUCESTERSHIRE.

June 18, 1884.—By cash .. .. £5 15*s.* 6*d.*

	£	*s.*	*d.*
J. H. Carpenter, Esq., Cainscross, near Stroud	0	10	6
S. J. Coley, Esq., High Street	0	10	6
W. H. C. Fisher, Esq., Rowcroft	0	10	6
James Harper, Esq., Ebley, near Stroud	0	10	6
Thomas Lancaster, Esq., Bownham House, near Stroud	1	1	0
Sir W. H. Marling, Bart., Stanley House, near Stroud..	1	1	0
T. S. Osborne, Esq., Lower Street	0	10	6
Rev. Joseph Wilkinson, Bremscombe, near Stroud ..	0	10	6
Frederick Winterbotham, Esq., Rowcroft	0	10	6

WINCHESTER.

May 9.—By cash .. .. £2 2*s.*

	£	*s.*	*d.*
Mrs. Walsh, Christ Church Road..	1	1	0
Miss Cornford, Ditto	0	10	6
Mrs. Harden, Kingsworthy	0	10	6

LIST OF HONORARY SECRETARIES AND LOCAL ASSOCIATIONS.

ALLOA: Rev. Alexander Bryson and Rev. Daniel M'Lean.
ABERDEEN: Rev. Prof. Milligan, D.D. *Hon. Sec.* Ladies' Association, Miss Mary Forbes.
ADELAIDE: Rev. W. R. Fletcher.
AMBLESIDE: Rev. H. B. Rawnsley, Wray Vicarage.
ANSTRUTHER: W. H. Mackintosh, Esq.
ARBROATH: T. B. F. Webster, Esq.
AYR: Robert Murdoch, Esq.
BASINGSTOKE: Rev. W. Marriner.
BATH: Rev. T. P. Methuen.
BEDFORD: Rev. Canon Haddock.
BELFAST: Rev. the President of Queen's College.
BIRKENHEAD: Rev. J. T. Kingsmill, St. Aidan's College.
BIRMINGHAM: Rev. F. Dell.
BISHOP'S WALTHAM: Rev. H. R. Fleming.
BLACKBURN: Herbert Birch, Esq., and Rev. A. B. Grosart.
BLAIRGOWRIE: W. S. Soutar, Esq.
BODMIN: S. Hicks, Esq.
BOLTON: George Monk, Esq.
BRECON: Richard Mills, Esq.
BRIGHTON: Rev. C. E. Douglass.
BURNLEY: Alfred Strange, Esq.
BURY: *Hon. Treas.*—Rev. Canon J. Hornby; *Hon. Sec.*—Rev. D. Walmsley.
CAMBRIDGE: W. M. Hicks, Esq., M.A., St. John's College; G. T. Bettany, Esq., M.A., Gonville and Caius.
CANADA: Toronto.—Subscriptions are received by the Hon. G. W. Allan.
CARDIFF: W. Adams, Esq., Cambridge House, Park Place, Cardiff.
CHELMSFORD: Rev. G. B. Hamilton.
CHELTENHAM: Dr. E. Wilson.
CHESTER: Rev. J. Davidson.
CHIPPENHAM: A. T. Keary, Esq.
CITY AND COUNTY OF CORK: H. S. Perry, Esq., Monkstown.
CLIFTON and BRISTOL: Rev. C. H. Wallace.
COLCHESTER: Rev. N. P. Gepp.
CROYDON: J. W. Janson, Esq.
DARLINGTON: J. P. Pritchett, Esq.
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GUILDFORD: Colonel Pask.
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LARKHALL: Rev. William Findlay, A.M.
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WORCESTER: Rev. Francis J. Eld.
YEOVIL: Rev. Abel Phillips, Holy Trinity Vicarage.

The Committee will be glad to communicate with gentlemen willing to help the Fund as Honorary Secretaries.

LIST OF DONATIONS AND SUBSCRIPTIONS.

FROM JUNE 23RD TO SEPTEMBER 26TH, 1884, INCLUSIVE.

a denotes Annual Subscriber.

*** If any omission or mistake be observed in the following lists, the Secretary will be very glad to be informed of it, and will rectify the error in the next *Quarterly Statement*.

	£	*s.*	*d.*
*a*Mrs. Allcard	1	1	0
*a*H. N. Angus, Esq.	0	10	6
*a*C. Ashton, Esq.	1	0	0
*a*Gen. Aylmer	1	1	0
*a*Rev. W. H. Askwith	1	1	0
*a*Rev. L. J. Ayre	1	1	0
*a*Miss Anstie	0	5	0
Col. Battye (4 years) ..	2	2	0
*a*G. Burns, Esq.	7	0	0
*a*Rev. W. Bruce	0	10	6
*a*Rev. J. O. Beeman	0	10	6
*a*W. H. Beeman, Esq... ..	0	10	6
J. W. Budgett, Esq. .. .	10	0	0
*a*Miss Bates	0	10	6
*a*R. Clayton Browne, Esq. ..	1	1	0
*a*Miss Brownhead	1	1	0
*a*D. Bumsted, Esq.	0	10	6
*a*E. Button, Esq.	0	10	6
*a*W. Cairns, Fsq.	1	1	0
*a*G. K. Cannington, Esq. ..	0	10	6
*a*W. F. Clarkson, Esq... ..	0	5	0
*a*J. Currie, Esq.	2	2	0
*a*H. Charlewood, Esq... ..	5	0	0
*a*W. Collins, Esq.	2	0	0
*a*Dr. W. M. Cooke	1	1	0
*a*G. Dent, Esq...	1	1	0
*a*Mrs. Tyrwhitt Drake ..	1	1	0
*a*T. O. Dutfield, Esq... ..	0	10	6
*a*Lord Ebury	2	2	0
*a*E. T. Edwards, Esq... ..	0	10	6
*a*Mrs. Evans	2	0	0
*a*E. S. Ely	1	1	0
W. Ellice, Esq.	4	4	0
*a*Justice Fry	1	1	0
*a*J. Forrester, Esq.	1	1	0
*a*Sir Ramsay Fairfax	2	0	0
Hon. and Rev. Canon Forester	1	0	0
Rev. H. Fisher	0	5	0
*a*J. Graham, Esq.	0	10	6
Carried forward	£60	13	6

	£	*s.*	*d.*
Brought forward	60	13	6
*a*T. Greenhalgh, Esq.	1	1	0
*a*Bishop of Goulburn	1	1	0
T. H. Griffith, Esq.	0	10	6
*a*J. F. Hayward, Esq... ..	2	0	0
*a*Gen. Haig	1	0	0
*a*Rev. J. H. Harrison	1	1	0
*a*T. Hawley, Esq.	1	1	0
*a*D. Herbert, Esq.	2	2	0
*a*Col. Hibbert	0	10	0
*a*J. H. Hodgkin, Esq... ..	2	0	0
*a*J. Hind, Esq...	0	10	6
*a*T. Hutchison, Esq.	0	10	0
*a*Rev. A. A. Isaacs	0	10	6
Rev. Canon Jarratt (2 years)	2	2	0
*a*P. B. Junor, Esq.	1	0	0
*a*Rev. J. T. Kingsmill ..	1	1	0
*a*Rev. Prof. Kirkpatrick ..	1	1	0
Rev. F. Lawrence (per) ..	10	10	0
*a*Miss Lory	0	10	6
*a*Miss Legg	0	10	6
*a*Miss Lockwood	0	10	6
*a*H. Leask, Esq.	0	10	6
*a*Rev. C. P. Lowe (3 years) ..	0	15	0
*a*Miss Martin	1	0	0
*a*Rev. S. F. Maynard	2	0	0
*a*J. Melrose, Esq.	2	2	0
*a*C. T. Methuen, Esq.	1	1	0
*a*Miss MacInnes	0	10	0
*a*T. B. Martin, Esq.	0	10	6
*a*R. Martin, Esq.	1	1	0
*a*Miss Marriott	0	10	6
*a*C. T. Maylard, Esq.	0	10	6
*a*J. Mayfield, Esq.	1	0	0
The Misses Muir	1	0	0
*a*Rev. G. L. Ommaney ..	1	0	0
*a*Captain Oakes..	0	10	6
*a*Miss Pim	2	2	0
*a*Miss Partridge	1	0	0
Carried forward	£109	0	0

LIST OF SUBSCRIPTIONS.

	£	s.	d.
Brought forward	109	0	0
*a*R. J. Pressley, Esq.	0	10	6
*a*T. Roberts, Esq.	0	10	6
*a*Mrs. Rogers	1	1	0
*a*Rev. R. A. Rouse	0	12	6
*a*Rev. A. Robson	0	10	6
Syrian Improvement Committee..	86	12	3
*a*Rev. G. H. Scott	0	10	0
*a*J. P. Stilwell, Esq.	1	1	0
*a*Rev. R. Shepherd	0	5	0
*a*Rev. T. Stotherts	0	10	6
J. A. Strachan, Esq.	0	10	0
Carried forward	£201	13	9

	£	s.	d.
Brought forward	201	13	9
T. E. Thompson, (1883–84)..	2	2	0
*a*John Tennant, Esq.	1	1	0
*a*Rev. R. W. Todd	0	10	6
*a*Mrs. Willis	1	1	0
*a*C. Whitwell, Esq.	0	10	6
*a*W. Winsford, Esq.	0	10	6
*a*Mrs. Witherby	1	1	0
*a*Rev. W. Wilson	1	0	0
*a*R. J. Webb, Esq.	1	1	0
*a*Mrs. Wright	1	1	0
*a*Mrs. Worsley..	2	2	0
Rev. F. E. Williams	1	0	0
Total	£214	14	3

LOCAL SOCIETIES.

	£	s.	d.
Adelaide	5	0	0
Bath	7	16	6
Burnley	2	0	0
Belfast	1	11	6
Cardiff	1	1	0
Epsom	2	2	0
Exeter	1	1	0
Falmouth	14	4	0
Leeds	2	4	0
Manchester	7	7	0
Salisbury	0	15	6
	£45	2	6

SUMMARY.

	£	s.	d.
Subscriptions and Donations	214	14	3
Local Societies	45	2	6
Maps, Memoirs, and Books	429	12	9
	£743	8	8

LIST OF SUBSCRIPTIONS.

ADELAIDE.

September 11.—By cash .. .. £5.

	£	s.	d.
Rev. W. R. Fletcher (Sec.)	0	10	0
Rev. F. W. Cox	0	10	0
Rev. S. Mead, LL.B.	0	10	0
Rev. D. Paton, M.A.	0	10	0
Mr. D. Murray	1	0	0
Rev. W. Jones	0	10	0
Mr. T. Smeaton	0	10	0
Right Rev. Dr. Kennion, Bishop of Adelaide	0	10	0
Mr. J. W. Tyas	0	10	0
Sale of "Heth and Moab"			

BATH.

July 3.—By cash .. .. £7 1*s.* 6*d.*

	£	s.	d.
Mrs Stainforth	1	1	0
Rev. Prebendary Wood	0	10	0
Mrs. P. Christie	1	1	0
Miss Holme	0	10	6
Miss A. J. Holme	0	10	6
J. S. Bartram, Esq.	0	10	6
C. Timins, Esq.	0	10	6
Rev. T. Hayes	0	10	0
Rev. J. Buttanshaw	0	10	6
Mrs. Buttanshaw	0	10	6
Rev. H. H. Comwood	0	10	6
Rev. T. P. Methuen	1	1	0

BELFAST.

September 2.—By cash .. .. £1 11*s.* 6*d.*

	£	s.	d.
Mrs. Gaffikin	0	10	6
Rev. Dr. Porter	1	1	0

BURNLEY.

July 2.—By cash .. .. £2.

	£	s.	d.
J. Rutterworth, Esq., J.P., Todmorden Road	0	10	0
J. Langfield Ward, Esq., M.A., The Grammar School	0	10	0
Mr. F. J. Grant, Bank Parade	0	10	0
Mr. Alfred Strange, Craven Lodge	0	10	0

LIST OF SUBSCRIPTIONS.

CARDIFF.

July 11.—By cash	£22 2*s.*
	£ *s.* *d.*
R. Oliver Jones, Esq.	1 1 0

EPSOM.

July 2.—By cash	10*s.* 6*d.*
Sept. 18.—By cash	£1 11*s.* 6*d.*
	£ *s.* *d.*
Miss Hislop	0 10 6
Isaac Braithwaite, Esq.	1 1 0
The Misses Rutchen	1 10 6

EXETER.

July 26.—By cash	£1 1*s.*
	£ *s.* *d.*
Rev. Precentor Cook	1 1 0

FALMOUTH.

August 29.—By cash	£14 4*s.*
	£ *s.* *d.*
Edward Banks, Esq.	0 10 0
Rev. J. H. P. Bennett	0 5 0
Edmund Carlyon, Esq.	2 2 0
Rev. George Lemon Church	0 10 0
Rev. W. Fookes	0 10 0
Miss Emys	1 1 0
Francis E. Fox	1 1 0
R. Reynolds Fox	1 1 0
Miss Fox	1 1 0
Robert Fox	1 1 0
A. L. Fox	1 1 0
Rev. George Hext	0 10 6
Mrs. Hodge	0 10 0
Miss Hustler	1 0 0
Mrs. Peter	0 10 6
Rev. W. Rogers	1 0 0
Rev. Canon Rogers	0 10 0

LEEDS.

March 29.—By cash .. .. £25.
July 21.—By cash.. .. .. £2 4*s.*

	£	*s.*	*d.*
Rev. Canon Atkinson, Audlem Vicarage..	1	0	0
Sir Edward Baines, Headingley	1	1	0
Frederick Baines, Esq., Weetwood	1	1	0
William Baxter, Esq., Leeds	0	10	6
J. Bilbrough, Esq., Leeds	1	1	0
Rev. Dr. Conder, Leeds	0	10	6
Right Rev. Bishop Cornthwaite, Leeds	1	1	0
Mrs. Crawford, Leeds	1	1	0
Misses Crowther, Leeds	1	1	0
Francis Darwin, Esq., Creskeld Hall	2	2	0
J. W. Embleton, Esq., Methley	1	1	0
William Ferguson, Esq., Leeds	0	10	6
John J. Good, Esq., Nottingham..	1	1	0
Miss Harris, Oxton Hall, Tadcaster	1	1	0
Thomas Harvey, Esq., Headingley, Leeds	1	1	0
Rev. W. A. Hayes, Dromore, co. Down, Ireland ..	1	0	0
Rev. John Hey, York	1	1	0
John Holmes, Esq., Roundhay, Leeds	0	10	6
Ed. G. Jepson, Esq., Leeds	1	1	0
John Jowitt, Esq., Harehills, Leeds	1	1	0
Sir Charles H. Lowther, Bart., Swillington House ..	2	2	0
Miss Maude, Knowsthorpe Hall, Leeds	1	0	0
Henry Nelson, Esq., St. John's Cottage, Leeds	1	1	0
Rev. H. Bickersteth Ottley, Vicarage, Horsham, Sussex	1	1	0
Rev. T. G. Rooke, D.D., Rawdon College, Leeds ..	2	2	0
Charles Ryder, Esq., Chapel Alleston, Leeds	1	1	0
Miss Scatcherd, Boston Spa, Tadcaster	0	10	6
T. E. Taylor, Esq., Dodworth Hall, Barnsley	1	1	0
Mrs. Tweedale, Kingston Grove, Leeds	1	1	0
J. W. Willans, Esq., Headingley, Leeds	0	10	6
Rev. Frederick J. Wood, Headingley Vicarage	1	1	0

MANCHESTER.

August 27.—By cash .. .. £7 7*s.*

	£	*s.*	*d.*
*a*J. Allsop, Esq.	1	1	0
*a*Rev. H. S. Byrth	0	10	6
*a*Thomas Chorlton, Esq.	0	10	6
*a*T. W. Freston, Esq.	1	1	0
*a*F. H. Leedham, Esq.	1	1	0
*a*Miss Lowe	1	1	0
*a*Miss Alice Lowe	1	1	0
*a*J. F. Robinson, Esq.	1	1	0

LIST OF SUBSCRIPTIONS.

SALISBURY.

June 27.—By cash..			15*s.* 6*d.*
	£	*s.*	*d.*
G. Rathmell Wilson, Esq...	0	5	0
Dr. J. Lardner Green	0	10	6

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PALESTINE EXPLORATION FUND.

Patron—THE QUEEN.

Quarterly Statement

FOR 1885.

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THE

PALESTINE EXPLORATION FUND

LAST YEAR AND THIS.

When, in the autumn of the year 1883, the Committee resolved upon sending out a Geological Expedition, a list was opened for donations to be directed specially to this purpose. It was found, however, that very few donors and subscribers desired that their money should be set aside for a special purpose, and the general funds of the Society were, as had always been done in the Survey, employed for this work. The general instructions for the Expedition were drawn up for the Committee, after consultation with Professor Hull, by Sir Charles Wilson. Professor Hull, as has already been told in the *Quarterly Statement*, carried the Expedition to a successful termination. His scientific results are as yet only partly published; in his forthcoming book (ready January 1st, 1885), called "Mount Seir," he will give such of them as are capable of being presented in a popular form. They will be fully and completely set forth in the scientific memoirs which he is preparing for the Committee. The results of the Expedition are, it may be stated, extremely satisfactory from the geological point of view. Not less satisfactory are they from the geographical point of view. Major Kitchener, who accompanied the party, was able, with the assistance of Mr. George Armstrong, to execute for the first time a reconnaissance survey of the Wâdy Arabah, which has since been laid down upon sheets by Mr. Armstrong, and is now ready for publication. At the same time Mr. J. Chichester Hart, who accompanied the party as a volunteer, has been doing good work in the natural history of this little known region. We have been so fortunate as to secure the publication of Mr. Hart's observations and discoveries in the *Quarterly Statement*. The first instalment will appear in April.

Other important geographical work has been done for Palestine during the last year—(1) in the publication by Colonel Sir Charles Wilson of the late Mr. F. W. Holland's notes of his last journey; (2) of Sir Charles Wilson's paper on Recent Biblical Research in Asia Minor and Syria; (3) of Mr. Laurence Oliphant's paper on the Khurbets of Carmel; (4) of Mr. Oliphant's Notes on the Jaulân; and (5) of various papers by Captain Conder.

The topographical work of the year, which forms so large and important a feature of the *Quarterly Statement*, includes papers by Captain Conder, Mr. H. G. Tomkins, Mr. W. F. Birch, Mr. S. Flecker, Mr. Mearns, Herr Conrad Schick, Dr. Clay Trumbull, Mr. Kennion, and Mr. Baker Greene. The archæological work of the year includes four very remarkable papers by M. C. Clermont-Ganneau.

We are thus able to look back upon the past year with considerable satisfaction. Though the Firman for continuing the Eastern Survey is still denied us, we have been able unexpectedly to secure the survey of a large and very important part of the Holy Land: we have cleared up many geological problems, and we have made a considerable addition to the archæology and topography of the country.

We have also, at length, completed the great work of the Society in publishing the last two volumes which finish the "Survey of Western Palestine." The work has been in hand for four years; now that it is completed we can look upon it as the permanent record of the greatest geographical and descriptive enterprise ever undertaken for the elucidation of the Bible, and as a work which should form part of every great library.

Since Mr. Armstrong's return he has remained in the service of the Committee, and has been occupied, first, in laying down the geographical work of the Expedition, which is now ready for publication, and next, in preparing a Map of the whole of Palestine, which will contain all our own survey work hitherto done, with the French and other work, as far north as Beyrout, and will be joined on to the Society's already published reduced Map of Western Palestine. It will be in sheets, so that any one sheet can be withdrawn and a new one substituted on the arrival of new matter. He is now engaged upon laying down on this map the Old and New Testament names, boundaries, &c. It is intended, in short, to produce a map, which can be subsequently altered and improved, which shall cover both sides of the Jordan. This map will contain the modern names, with those of the Old and New Testaments. It will be published either as a Map of Modern Palestine East and West of the Jordan, or as a map showing the Old Testament names with the modern names, or as showing the New Testament names with the modern, or as a map showing all three. It has already been announced that subscribers to the already issued Old and New Testament maps will be enabled to exchange simply on payment of the difference in price and the carriage.

A great many photographs were taken in the Wâdy Arabah by Dr. Gordon Hull. Some of these have not, unfortunately, come out well. A selection, however, will be made of the best, and a descriptive catalogue written for them, and they will be issued as soon as possible.

As regards the work for the year 1885. There is little hope that the Firman for the Survey of Eastern Palestine will be granted in the present posture of things. If it were granted it would for the moment be useless, because all the Royal Engineer officers who have worked for the Fund are now on active service—Colonel Sir Charles Wilson, Major Kitchener, and Captain Mantell in Egypt; General Sir Charles Warren and Captain

Conder in South Africa—and there would be little chance of getting any other officer's services in this period of uncertainty. At the same time we have strong grounds for hoping to make from time to time very substantial additions to the geography of certain little known districts from other sources.

We shall also perhaps be able to undertake certain investigations in Jerusalem, and perhaps elsewhere, as occasion may offer.

It has been suggested that this time of inaction from field work may be utilised for a very important object included in our original prospectus, but as yet hardly touched, viz., the scientific collection of manners, customs, legends, traditions, superstitions, and religious and ritualistic survivals. The Committee are at present considering a scheme having this in view which has been submitted to them.

As regards publishing next year, we have made the following important arrangements :—

(1) "Mount Seir."

This volume has been written for the Committee by Professor Hull. It is now (Christmas, 1884) on the point of publication. It contains a popular account of the journey, and especially of that country, now known as the Wâdy Arabah, which was the special scene of his labours. A geological map and a geographical map accompany the work, with many other illustrations. The published price will be 10*s.* 6*d.*

(2) A new edition of Captain Conder's popular and delightful work, "Tent Work in Palestine," in crown 8vo., at 7*s.* 6*d.*

(3) A new and cheap edition of "Heth and Moab," uniform with the above, at 7*s.* 6*d.*

These two works will be ready by the end of January.

(4) "Our Work in Palestine." This little book, which ended with the commencement of the Survey, has been out of print for some time. It is proposed, as soon as time can be found, to bring out a new edition, carrying on the popular history of the Society's work to the present date.

(5) We propose to publish in the *Quarterly Statement* for 1885, the following important papers :—

(*a*) A Translation by Dr. Chaplin of a Hebrew Treatise by Maimonides upon the Temple.

(*β*) The Natural History Results of the Wâdy Arabah Expedition, by J. Chichester Hart.

(*γ*) A Supplement by Canon Tristram to his "Flora and Fauna."

(*δ*) A Paper by Sir Charles Warren on the Arabs of the Sinai Desert.

(*ε*) Topographical papers by Rev. W. F. Birch, Captain Conder, Mr. Boscawen, and other writers.

(*ι*) Certain geographical papers now in preparation, the results of observations made by a private traveller.

There remain in the hands of the Committee for publication :—

I. The Geological Memoirs by Professor Hull, F.G.S. We shall be able to report upon these when they are completed.

II. The Memoirs and Plans of the interrupted Survey of Eastern Palestine.

The Memoirs of the 500 square miles executed by Captain Conder are much fuller than those of the country west of the Jordan, because they deal with a district much less known, and fuller, if possible, of interest. Thus, though the area surveyed occupies little more than that covered by a single sheet, on the scale of one inch to the mile, the Memoirs are copious enough to fill a whole volume equal in size to one of those published on the "Survey of Western Palestine," while there are 400 drawings and plans and illustrations, besides a series of photographs.

The Committee have not yet decided on the form of publication of these Memoirs. They may possibly be published, as in the case of the "Survey of Western Palestine," by special subscription.

III. The drawings made for M. Clermont-Ganneau in the year 1874–5 by M. Lecomte.

Many causes have combined to prevent the publication of these most exquisite and valuable drawings. They were executed for the Committee by M. Lecomte, who accompanied M. Clermont-Ganneau to Palestine in the years 1874–5. They are between six and seven hundred in number, and are almost wholly of architectural and archæological interest. Since they were placed in the hands of the Committee, nine years ago, M. Clermont-Ganneau has been engaged in Constantinople, in Palestine, and in Paris, for the French Foreign Office. He has also held the post of Professor of Semitic Archæology at the Sorbonne. He is now, however, able to promise the necessary explanatory letterpress as soon as it is wanted. The cost of publishing this work in a worthy form will be about £1,500. Perhaps proposals will be issued for a subscription work in the spring.

IV. The copies of the "Survey of Western Palestine" which remain have been placed in the hands of Mr. Alexander P. Watt, of 34, Paternoster Row, who has been appointed by the Society their agent for the sale. They will be issued by him to libraries, &c., in order of application. *Subscribers and those who already possess the work are requested to note that no reduction will be made, either now or at any other time, in the price of this great work.* On the other hand, the Committee reserve to themselves the right of raising the price of the last copies.

In conclusion, the friends of the Society are earnestly requested to consider that the work is always actively going on; that funds are always needed; that the real and invaluable work which has been already done must be taken as an earnest of what will be done, and that their continued assistance is asked in support of an enterprise which gives results, solid, enduring, and for all time.

NOTES.

The income of the Society, from September 26th to December 12th, 1884, inclusive, from all sources, was £656 9*s.* 3*d.* On December 16th the balance in the Banks was £205 9*s.* 6*d.*

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

The only authorised lecturers for the Society are—

(1) The Rev. Henry Geary, Vicar of St. Thomas's, Portman Square. His lectures are on the following subjects :—
   The Survey of Western Palestine, as illustrating Bible History.
   Palestine East of the Jordan.
   The Jerusalem Excavations.
   A Restoration of Ancient Jerusalem. Illustrated by original photographs shown as "dissolving views."

(2) The Rev. James King, Vicar of St. Mary's, Berwick. His subjects are as follows :—
   The Survey of Western Palestine.
   Jerusalem.
   The Hittites.
   The Moabite Stone and other monuments.

(3) The Rev. James Niel, formerly Incumbent of Christ Church, Jerusalem.

ADDENDA TO THE FLORA OF PALESTINE.

I HAVE just received, through the kindness of M. William Barbey, of Valleyres, Vaud, Switzerland, a copy of his splendid illustrated work, "Herborisations au Levant," 4to., Lausanne, 1882, containing the results of a botanical expedition to the East, made by himself and his brother in 1880. I much regret that I had not the good fortune to see the volume before the "Fauna and Flora of Palestine" went to press. MM. Barbey only give the results of their own and Dr. Lortet's expeditions, but even so their catalogue comprises 38 species of phanerogamic plants, 13 of them grasses, which escaped my observation, and which must be added to the 3,012 species in my volume. In order that our catalogue may be as complete as possible, I trust you will afford space in the *Quarterly Statement* for these addenda. They are as follows :—

Papaveraceæ. 1. *Glaucium grandiflorum.* Boiss. Diagn., Ser. II, v, p. 15.—Valley of the Kedron. Not hitherto observed in Palestine or Syria.

Cruciferæ. 2. *Sinapis pubescens.* L. Mant. 95.—Beersheba.

Resedaceæ. Reseda decursiva. Forsk., æg. p. 67. Included by me as *R. propinqua*, var. *eremophila.* F. and F., p. 234.

3. *Caylusea canescens.* L. Syst. 368, var. *foliosa*, Müll.—Marsaba ; between Jerusalem and Jericho.

Violariæ. 4. *Viola occulta.* Lehm., Ind. S. Hamb., 1829.—Near Samaria.

Sileneæ. 5. *Silene apetala.* Willd., Sp. II, 307.—In cultivated ground, Valley of Achor.

6. *Silene canopica.* Del., Ill. Fl. Eg., No. 442.—Beersheba.

7. *Silene oxyodonta.* Barbey, spec. nov., Herbor. au Levant, p. 121, Pl. XI.—Plain of Esdraelon.

Alsineæ. 8. *Spergularia diandra.* Guss., Prodr. Sic., I, p. 515.—Kedron Valley ; between Jerusalem and Jericho ; by Dead Sea ; Esdraelon.

Malvaceæ. 9. *Malva ægyptia.* L. Sp. 981.—Southern Desert. Accidentally omitted in F. and F.

Leguminosæ. 10. *Trigonella aleppica.* Boiss., Flor. Or., II, 79.—Valley of the Kedron ; Jenin.

11. *Trifolium bullatum.* Boiss., Flor. Or., II, 138.—Fields near Beyrout.

12. *Glycyrrhiza glabra.* L. Sp. 1048, vars. *typica* and *violacea.*—Jordan Valley ; Wâdy Semakh.

13. *Astragalus trimestris.* L. 1073.—Philistia ; Beersheba.

14. *Astragalus camelorum.* Barbey, spec. nov., Herbor. au Levant, p. 131, Pl. III.—Southern Desert.

15. *Lathyrus setifolius.* L. Sp. 1031.—Southern Philistia.

Compositæ. 16. *Cynara sibthorpiana.* Boiss. Diagn., Ser. I, x, p. 94. —Jericho.

Convolvulaceæ. 17. *Calystegia soldanella.* L. Sp. 266.—Sea-shore at Sidon.

Scrophulariaceæ. 18. *Celsia glandalosa* Bouché., Linn., V, Lit. 12.—Valley of the Dog River.

Labiatæ. 19. *Sideritis taurica.* M. B., Taur. Cauc., II, 43.—On rocks in the Dog River Valley.

Salsolaceæ. 20. *Salsola canescens.* D. C., Prodr., p. 208.—Accidentally omitted in F. and F. Found by us on Lebanon. By MM. Barbey at Marsaba.

Euphorbiaceæ. 21. *Euphorbia parvula.* Del., Eg., p. 290.—In the Southern Desert.

Salicineæ. 22. *Salix triandra.* L. Sp. 1442.—Achzib. Not before noticed in Syria.

Iridaceæ. *Iris lorteti.* Barbey, spec. nov., Herbor. au Levant, p. 178, Pl. VII.—This superb Iris, one of the two species mentioned by me (F. and F., p. 423) as found in the woods of Galilee, has been described and beautifully figured in a full-sized coloured plate by MM. Barbey. It was found by Dr. Lortet in the same place where I collected it, near Kulat Hunin, above the waters of Merom.

Liliaceæ. 23. *Bellevalia sessiliflora.* Viv. Fl., Lib. 21, t. vii, f. 5.—Southern Desert.

24. *Muscari holzmanni.* Held., Att. Con. Fir., 228.—Achzib and Beyrout.

MM. Barbey also mention two undescribed species of *Leopoldia* or *Muscari*—one from the southern desert, the other from the northern coast.

Orchideæ. 25. *Serapias lingua.* L. Sp. 1344.—Near the Dog River.

Gramineæ. 26. *Andropogon rubescens.* Vis., Reg. Bot. Zeit., 1829, p. 3.—Near Ras en Nakurah.

27. *Alopecurus pratensis.* L. Sp. 88.—On the coast.

28. *Cynosurus callitrichus.* Barbey, spec. nov., Herbor. au Levant, p. 165, Pl. X.—Near Hebron and Jerusalem.

29. *Echinaria capitata.* L. Sp. 1488.—General.

30. *Lepturus incurvatus.* L. Sp. 1490.—Near Beyrout.

31. *Bromus rubens.* L. Sp. 114.—Dry places, throughout Southern Palestine.

32. *Lolium rigidum.* Gaud. Helv., I, p. 355.—Various places on the coast.

33. *Sphenopus gouani.* Trin., Fund. Agr., p. 135 = *S. divaricatus* Rehb.—The Ghôr.

34. *Festuca interrupta.* Desf. Atl. I, p. 89.—Waste places, Esdraelon.

35. *Catapodium loliaceum* (Huds. Angl., 43).—On the coast.

36. *Avena barbata*. Brot., Flora Lus., I, 108.—In the desert and in waste places. This is the unidentified *Avena* of F. and F., p. 444, No. 56, from Moab.

37. *Trisetum parviflorum*. Pers. Syn., I, 97.—Waste places in Judæa.

38. *Deschampsia media*. Ræm. el Schultz., S. II, 687.—On the coast near Achzib.

I may also here observe that I have identified the *Phleum*, No. 13, Fauna and Flora, as *P. græcum*. Boiss. Flor. Or., V, p. 481.

Also *Pennisetum*, No. 19, p. 442, F. and F. as *P., ciliare* (L. Mant. 302).

Aristida, No. 35, p. 443, F. and F., as *A. pumila*. Decaisne, Ann. Sc. Nat., Ser. II, 85.

Gastridium, No. 23, p. 442, F. and F., as *G. scabrum*. Presl., Cyp. Sic., p. 21.

Polypogon, Nos. 50 and 51, p. 444, F. and F., as *P. maritimum*, Willd. Nov. Act., III, p. 443; and *P. littorale*, Smith, Comp. Brit., 13.

Avena, No. 56, p. 444, F. and F., should be *Gaudinia fragilis* (L. Sp. 119).

Bromus, No. 110, p. 445, is *B. fasciculatus*. Presl., Cyp. Sic., 39.

Dactylis, No. 93, p. 447, F. and F., is *D. hispanica*. Roth. ; *cf.* Flor. Or., V, p. 596.

I wish also to correct the following identifications of grasses in the "Fauna and Flora :"—

Phalaris canariensis, p. 441, No. 5, should be *P. brachystachya*, Link in Schrad. Journ. 1, 3, as pointed out by Boissier, Flor. Or., V, p. 471.

For *Milium syriacum*, Boiss. No. 119, p. 448, read *M. vernale*, M. B. Taur. Cauc., I, 53, var. *montianum*, Cosson.

For *Melica boissieri*, Reut, No. 83, p. 446, read *M. ciliata* (L. Sp. 97), and erase Nos. 75 and 80, *Briza bipennata* and *Melica minuta*. The former species is identical with No. 87, F. and F., *Eragrostis cynosuroides*.

The long-expected completion of M. Boissier's most exhaustive and accurate work, "Flora Orientalis," of which the concluding part has only just reached me, enables me to revise my catalogue of grasses by the decision of the first living authority on the subject. And I am sure that all practical botanists will deal leniently with omissions and oversights, as well as with the necessity for the corrections enumerated above ; well knowing the difficulties of deciding on the often unsatisfactory or mutilated specimens before us, of this most perplexing of all botanical families.

M. Boissier's work enables me to add one species to the *Coniferæ* of Palestine, viz., *Abies cilicica*, Ant. and Ky., Æst. Woch., 18, 53, p. 409. It is the only *Abies* found in the country, and which I now well remember to have seen near Ehden on Lebanon, one of the localities given by Boissier.

Ephedra fragilis, F. and F., p. 452, ought to stand as *E. campylopoda*, C. A. Mey. Eph., 73. The two species have been generally confounded. The distinctions are pointed out by Boissier, *op. cit.*, pp. 714, 715.

I have but one fern to add to my catalogue, the common Adders' tongue, *Ophioglossum vulgatum* (L. Sp. 1518), found near Zebdany. But the number of grasses added to our list by M. Boissier amounts to no fewer than 47, bringing up the whole number of Palestinian *Gramineæ* to 216. I subjoin the names, with the localities given :—

1. *Panicum sanguinale.* L. Sp. 14.—General.
2. *Panicum crus-galli.* L. Sp. 83.—General in fields.
3. *Panicum colonum.* L. Sp. 84.—Coast near Sidon.
4. *Panicum eruciforme.* Sibth. Prodr., I, p. 40.—Ehden on Lebanon.
5. *Panicum numidianum.* Lam. Enc., IV, 749.—Near Beyrout.
6. *Setaria verticillata.* L. Sp. 82.—Near the coast.
7. *Andropogon ischæmum.* L. Sp. 1483.—Lebanon.
8. *Hemarthria fasciculata.* Desf. Atl., I, p. 110, t. 36.—Near Sidon and Beyrout.
9. *Phalaris nodosa.* L. Syst., 38.—Coast and Lebanon.
10. *Heleochloa acutiglumis.* Spec. nov., Boiss., Flor. Or., V, p. 476.—Hadith, Lebanon.
11. *Phleum alpinum.* L. Sp. 88, var. *commutatum*, Gaud.—Snow-line of Lebanon.
12. *Phleum bœhmeri.* Wib., Fl. Wett., p. 125.—Hadith, Lebanon.
13. *Alopecurus gerardi.* Vill. Dauph., II., 66.—Subalpine Lebanon.
14. *Aristida sieberiana.* Trin. in Spring., N. Ent., II, 71.—Near Jerusalem.
15. *Aristida forskahlei.* Tausch., p. 506.—Sands near Beyrout.
16. *Aristella bromoides.* L. Mant., I, 30.—Lebanon above Sidon ; Antilebanon above Rascheya.
17. *Agrostis verticillata.* Vill. Dauph., II, 74.—In wet places, general.
18. *Agrostis alba.* L. Sp. 93, var. *scabriglumis.*—Brumman on Lebanon.
19. *Gastridium lendigerum.* L. Sp. 91.—Sidon.
20. *Corynephorus articulatus.* Desf., Fl. Atl., I, 70, Pl. XIII.—Sands, Gaza, Beyrout.
21. *Holcus lanatus.* L. Sp. 1485.—Lebanon.
22. *Holcus annuus.* Salz., Fl. Ting. exs.—Pine forests, Lebanon.
23. *Ventenata blanchei.* Boiss., spec. nov. Flor. Or., V, p. 539.—Cedar grove, Lebanon.
24. *Dactyloctenium ægyptiacum.* L. Sp. 106.—Coast near Sidon.
25. *Cynosurus elegans.* Desf., Atl. I, 82, Pl. XVII.—Hasrun, Lebanon.
26. *Eragrostis poœoides.* P. de B. Agr., 71.—Fields, general.
27. *Eragrostis megastachya.* Link., Hort. Ber., I, 187.—Coast.
28. *Briza spicata.* Sibth., Fl. Græc., I, 61.—Lebanon and Antilebanon.
29. *Poa diversifolia.* Boiss., Bull. S. Fr., 1857, p. 306.—Dimas, Lebanon.
30. *Poa trivialis.* L. Sp. 99.—The coast.
31. *Poa persica.* Trin. in C. A. Mey, Enum., p. 18, var. *alpina.*—Top of Lebanon.
32. *Molinia cærulea.* L. Sp. 95.—Upper Lebanon.
33. *Glyceria plicata.* Fries, Nov. Mant., III, 176.—In standing water.

34. *Festuca ovina*, var. *pinifolia*. Hackel in litt., Flor. Or., V, 617.—Higher Lebanon.
35. *Scleropoa maritima*. L. Sp. 128.—Coast near Sidon.
36. *Bromus flabellatus*. Hack., Boiss., Flor. Or., V, 648.—Near Jerusalem.
37. *Bromus alopecurus*. Poir. Voy., II, 100.—Galilee and the coast.
38. *Bromus squarrosus*.—L. Sp. 112.—Lebanon.
39. *Bromus brachystachys*. Hornung. Fl., XVI, 2, p. 418.—By the Jordan.
40. *Brachypodium pinnatum*. L. Sp. 115.—Lower Lebanon.
41. *Agropyrum panormitanum*. Parl. Pl., var. Sic. II, p. 20.—Hermon.
42. *Agropyrum repens*. L. Sp. 128.—Lebanon.
43. *Agropyrum elongatum*. Hort., Gr. Austr., II, 15.—Near Beyrout.
44. *Ægilops bicornis*. Forsk., Descr., 26.—Sandy places, coast.
45. *Psilurus nardoides*. Trin. Fund., I, 73.—Coast and interior.
46. *Hordeum secalinum*. Schreb. Spic., 148.—The Lejah.
47. *Elymus delileanus*. Schultz. Mant., 2, 424.—Central Palestine.

H. B. TRISTRAM.

Durham, 26*th November*, 1884.

A DOLMEN IN THE TALMUD.

"RABBI ISHMAEL said, 'Three stones beside each other at the side of the image of Markulim are forbidden, but two are allowed. But the wise say when they are within his view they are forbidden, but when they are not within his view they are allowed.'" (Mishnah Aboda Zarah, iv, 1.)

This passage from the tract treating of "Strange Worship" refers to the idolatry of the second and third centuries A.D., before the establishment of Christianity by Constantine. R. Ishmael was a contemporary of Akiba (*circa* 135 A.D.). From the Babylonian Talmud (Baba Metzia 25 *b*) we learn that these three stones near the "Menhir of Mercury" (for Markulim was Mercury or Hermes, the god of the pillar) were arranged two side by side and the third laid flat across. From another passage (T. B. Beracoth 57 *b*) we gather that such symbols, viz., an "image" (צורא) or Hermes with a tirlithon in front of it, were commonly to be found.

From the Midrash on Proverbs xxvi, 8, we also gather that the cultus of Markulim (or Mercury) consisted in throwing a stone at his image, and it is well known that this practice was connected in Greece with the cultus of Hermes or Mercury.

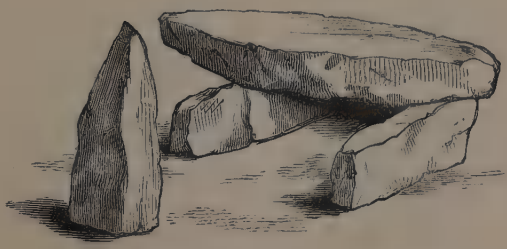
This trilithon was evidently a dolmen similar to the dolmen tables still erected by the Arabs in Moab, and its connection with a menhir recalls the "Sentinel Stones" which are found in Brittany, Scandinavia, and England, standing in front of a dolmen or trilithon.

Markulim on Mount Gilboa.



Monument on Mount Gilboa discovered by Captain Conder in 1872. ("Memoirs," Vol. II, p. 115.)

Markulim in Sweden.



The Dolmen and Sentinel Stone of Oronst. (Fergusson's "Rude Stone Monuments," p. 306.)

I feel little doubt that the curious monument which we discovered on Mount Gilboa near the village of Deir Ghazâleh in 1872, is one of the Markulim of the Talmud. It was, I believe, the first rude stone monument discovered west of Jordan (not including Phœnicia). The standing stone is 6 inches thick, 2 feet wide, 3½ feet high. I found it very firmly fixed. It was impossible to move it, and it is probably sunk to some considerable distance in the ground. The trilithon or dolmen has a table-stone 6 feet 9 inches long. The other stones form an enclosure such as often encircles dolmens in every land. The enclosure with a central stone is also a kind of monument found in Moab, as I have shown in my reports and memoirs. All these facts tell strongly in favour of the contention, which is supported by Lubbock, Forbes, Leslie, and other competent authorities, that rude stone monuments in all lands are intimately connected with the religious ideas of early tribes. This subject I have endeavoured to treat in "Heth and Moab," but a great many confirmatory facts have come to my knowledge since I completed that volume.

Idolatry was of course the general practice in Syria when the Mishnah was written, and in the tract above quoted we find mention of the sun, moon, planets, mountains, Zodiacal signs, trees, and stones, as objects of idolatry; also the sacred baths or springs of Venus, and the serpent or dragon. One other passage is of interest in connection with rude stone monuments.

"In Zidon, at the tree where they worshipped, they found beneath it a heap) or cairn, גל), said R. Simon to them, examine the heap.' And they examined it, and found in it an image (צורא). He said to them, as the object of worship is the image, we shall allow the tree to you." (Mishna Aboda Zara, iii, 2.)

In this case the menhir had been covered up in a cairn made of the stones thrown at it as an act of worship. The meaning of this custom has been made plain by archæologists, and each stone thrown is witness of a visit paid to the spot. The larger therefore the cairn the greater the veneration shown.

From another passage it appears (iv, 2) that offerings used to be placed on the head of Markulim or on the top of the menhir. In Brittany, and in Scotland and in India alike, menhirs may still be seen which form the nucleus of the cairn which surrounds them. This practice is probably also noticed in the Bible (Genesis xxxi, 45–48), but I have not met with any explanation of the cultus in the dictionaries and commentaries.

The arrangement of the trilithon and menhir, especially when the latter is surrounded by an enclosure as is the case in the Gilboa example, may be considered to represent the prehistoric prototype of such temples as were afterwards erected in Phœnicia or Greece, with a rude stone instead of a statue, and a pair of pillars standing in front of the fane, and supporting only a single block of stone. The relative position of the pillar and the trilithon appears sometimes to have had a relation to the sunrise or sunset, but this though observed by the modern Arabs is not an invariable rule.

In connection with this subject, a few words may be added as to hollows in dolmens and menhirs. The cup hollows have been described (see "Heth and Moab") in Moabite monuments. In Finland such hollows are made in stones, and connected with a charm against diseases, which are conjured into them. In Scotland the same hollows were used for libations of milk. Milk was poured through a hole in a menhir in the western isles off the Scottish coast. Another menhir in Aberdeenshire had a hollow in the top in which rain water accumulates, which the ignorant suppose to spring from the stone, and a cross-shaped stone, called Water Cross, was said to bring down rain when placed upright.

Visiting recently the well known Kits Coty House dolmen, near Maidstone, to see if there were any cup hollows in its table stone (which is slanted just like the table of a Moabite dolmen), I found the side stones pitted with deep hollows, some of which it is impossible to suppose to have been natural erosions. About a quarter of a mile south of Kits Coty House there is a ruined circle of fallen stones (sandstone from the neighbourhood, as is Kits Coty House also). The farm people believe that these stones cannot be counted, a legend which is I believe not peculiar to this circle alone. I found in some of the stones of this circle (which are 7 to 8 feet long) holes like those in the Cotty House, but still more plainly cut with the object of holding something. Perhaps, as in so many other cases, libations of blood or milk, honey, or water, were once poured on these holy stones, or small offerings placed in the stone itself, by those who regarded these monuments as sacred. The offering was placed on the top of the stone in the case of Markulim as above noted. One of the best examples of such holes in side stones is noticed by Fergusson, in the famous covered dolmen at Gavr Innis in Brittany.

There is another circle at Addington Park, near Maidstone, which I have not yet been able to visit, which has a curious outlying cairn on the east or north-east. We may compare the circle and gigantic cairn of Wâdy Jideid in Moab.

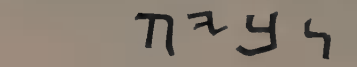
C. R. C.

THE ARAMAIC ALPHABET.

In my paper on Hebrew inscriptions, published in the *Quarterly Statement*, October, 1883, I have mentioned the inscription at 'Arâk el Emîr. This we both copied and photographed, and my original copy made on the spot differs in the first letter from that of previous writers. According to Levy, it has the form of a rude *Teth* open at the top.



According to my copy it is round like an O, and could only read as an *Ain*.



I did not when copying the text reflect on the importance of this difference, but the photograph, though taken rather at an angle, appears to support the copy, and de Vogüé reads this letter as agreeing also with my view.

The importance of this difference lies in the fact that the inscription appears as a whole to be Aramaic rather than Phœnician; but that the first letter if it be an *Ain* cannot be Aramaic, but must belong to some alphabet allied to the Moabite Stone, according to the received views. The Aramaic alphabets, whence square Hebrew developed, are peculiarly marked by the open loops of the letters, especially of the *Ain*. In order to satisfy the learned world, a squeeze (which would require a ladder), or a new photograph of very large size, may become necessary; but it seems strange that such a difference of copy should occur in so very distinct and well preserved a text, and I incline to believe that my copy, made without any reference to the reading of the text, is correct.

Now the inscriptions from Medeba seem to present us with exactly the same problem, and their genuineness is rendered the more probable, as some of their most suspicious forms have (as Dr. Taylor kindly points out to me) been found also in unquestionably genuine texts from Arabia. In No. 2 of the Medeba texts we find two letters almost identical with two in the 'Arâk el Emîr text, namely,



The first of these is small, like the *Ain* of the South Semitic Alphabets, the second appears to be an Aramaic letter.

Now almost the only great problem concerning the alphabet which remains to be solved, is that of the connection of the South and North Semitic Alphabets. The link may perhaps exist, not in Arabia, but in Moab, and the Medeba texts may serve to point it out. It seems that, contrary to expectation, forms of the Aramaic may occur with Phœnician or South Semitic forms in the same inscription. The 'Arak el Emîr text in all probability dates as early as 176 B.C., and presents the same confusion of two alphabets, generally believed to be distinct. We have, it is true, not very much to guide us in drawing conclusions, but the Moabite texts here noticed may perhaps induce palæographical authorities to extend their researches in a new direction in treating the relations of the various branches of the earliest alphabet, that of the Phœnicians. I should note in conclusion that Mr. Doughty has brought home squeezes of some Sinaitic and Aramaic inscriptions from the neighbourhood of Mecca which may perhaps cast light on this question.

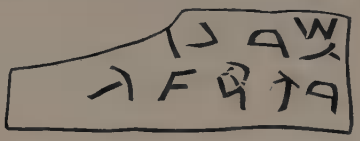
C. R. C.

INSCRIPTIONS.

It may be convenient to give a *résumé* of the epigraphic results of the Survey of Palestine, which have been more numerous and important than might perhaps be supposed, without collecting those scattered through the pages of the Memoirs.

HEBREW.

1. The inscription on a tomb in the Jordan Valley, which appears to be perhaps as old as the Siloam text, was discovered by me in 1874. (Memoirs, vol. ii, p. 396.) It is here given for comparison.

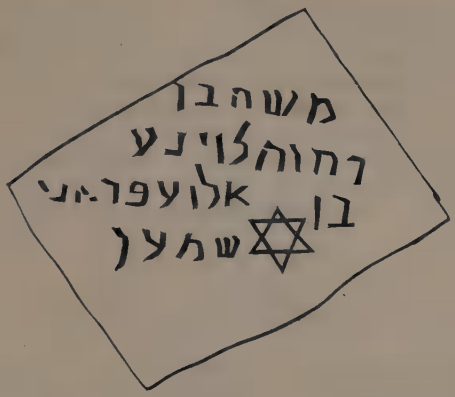


2. The curious text from Umm ez Zeinât, which reads, perhaps, Eleazar Bar Azariah, was copied by me after being discovered by Sergeant Armstrong in 1873. (Memoirs, vol. ii, p. 71.) As regards this it might perhaps be suggested that we have here the tomb of Rabbi Eleazar ben Azariah, who died 83 A.D. He was one of the Tanaim (Mishnah Beracoth, iii, 7), a disciple of R. Jonathan ben Zaccai, who died 73 A.D. Both were priests. R. Eleazar appears to have succeeded Gamahil the younger at Jamnia. (*Cf. Pirke*, Aboth iii, 17.) The discovery of these ancient Hebrew texts during the Survey may be considered an important addition, especially as the zeal of M. Clermont-Ganneau has only added the Gezer text and the yet unpublished Phœnician text from Silwân.

3. The square Hebrew inscription from a tomb at 'Ain Sinia was copied by C. F. T. Drake in 1872. (Memoirs, vol. ii, p. 302.) It appears to read, Moses bar Eleazar bar Zechariah the priest. This may be ascribed to the Herodian period with confidence.

The well-known inscription at Kefr Birim is also noticed in the Memoirs, vol. i, p. 233, and that at Nebratim, vol. i, p. 244, and at el Jish, vol. i, p. 225.

4. Some Jewish graffiti at Neby Samwîl are of interest. They cannot be older than 1157 A.D., but they are not recent, because they have been plastered over, and the plaster is old and has fallen off. The most important is here given from the voussoir of a pointed arch with mediæval mason's marks (the shield of David) and diagonal tooling. It appears to read, Moses Ben Nahum Levi . . . Ben Aloazer . . . Shemon. This may be of value for comparison with the graffiti on the osteophagi from the Mount of Olives described by M. Clermont-Ganneau. The form of the *Shin* is much later than that on some of these osteophagi. The same may be said of the *Ain*, *Mim*, and *Lamed*, but the *Zain* seems to have a peculiar early form, if rightly read, and the *Aleph* is also peculiar.



Among the Jerusalem inscriptions which I have collected together for the Jerusalem Volume of the Memoirs will be found mentioned the six well-known Hebrew texts, namely, the Beni Hezir Tomb, and the tomb found by De Vogüé; the sarcophagus of Queen Sara, and the stele found by De Saulcy with the letters copied at the Torph Gate by Sir Charles Wilson, and the Phœnician letters on the Temple wall; as also the Siloam text, the fragment of a text from Kefr Silwân, and the two supposed letters on the so-called "Egyptian Tomb" in the Kedron Valley. These, with the three Phœnician texts of Urm el 'Amîn (Memoirs, vol. i, p. 183), and the coffin of Eshmunazar, the Gezer Stones, and the Pillar of Amwâs, make a total of nineteen Hebrew and Phœnician texts known in Palestine. The Moabite Stone and the 'Arâk el Emîr text East of Jordan must be added to these. The graffiti are not counted, nor the numerous Jewish tombstones at Taffa. (Memoirs, vol. ii, p. 277.)

GREEK.

These are extremely numerous in Palestine, the majority being Christian, and subsequent to the fourth century. The most valuable is the stele of Herod's Temple found by M. Clermont-Ganneau. The following are the new ones found by the surveyors within the Survey.

5. The inscription of the Cathedral of Tyre, mentioned, but not given, Memoirs, vol. i, p. 73. I copied it in 1881.

ΡΟΝΤΗΝ
ΟΠΟΜΗ
Ο . . ΟΙ . . Ν
ΚΡΗΤΗΣ

See Appendix, vol. iii, p. 428.

6. Greek text at Deir Dugheiya, which was found first by Renan, in honour of John the Baptist and St. George. (Memoirs, vol. i, p. 115.) It appears to have been rediscovered in 1877.

7. Greek Christian text of Siddikîm. (Memoirs, vol. i, p. 138.) It contains the name of St. Procopius and the Deacon Eusebius. From the contraction of the word Deacon it might be thought—as also from the Jerusalem crosses above the text—to be of Crusading origin.

8. Marble slab from Masûb. A funerary text, probably not earlier than the 12th century. (Memoirs, vol. i, p. 168.)

9. Greek Christian text from Marûn. (Memoirs, vol. i, p. 251.) On p. 260 is given another, which had been already copied by Renan.

10. Inscription on an early Christian tomb at Shefa 'Amr. (Memoirs, vol. i, p. 341.)

11. Inscription at 'Abûd, also found by Sir C. W. Wilson in 1866. (Memoirs, vol. ii, p. 303.) "Memorial of the Holy——."

12. Medæval text, "Memorial of George," at el Hats. (Memoirs, vol. ii, p 321.)

13. Inscription on font at Khŭrbet Kilkh. It was found by Sergeant Black, but had, I believe, been already copied by M. Clermont-Ganneau. (Memoirs, vol. ii, p. 336.)

14. Inscription almost illegible, copied by C. F. T. Drake at 'Akrabeh. (Memoirs, vol. ii, p. 388.)

15. A few letters from another stone at the same place.

16. Inscription at Mejdel Yaba, "The Church of St. Cerycus" (an early convent), or perhaps of the "Holy Herald"—that is, probably, of John the Baptist. (Memoirs, vol. ii, p. 361.)

17. El Mujhâr, a Greek Christian text. It was copied by M. Clermont-Ganneau in 1874, of which fact we were not aware. (Memoirs, vol. ii, p. 427.)

18. Dedication by Martin the Deacon. This also was copied by M. Clermont-Ganneau. (Memoirs, vol. ii, p. 134.)

19. Deir el Kelt. Greek and Arabic text over the door, and a number of mediæval Greek texts on the pictures. (Memoirs, vol. iii, pp. 193–197.) The texts at Koruntil and Kasr Hajlah were already known. (See Memoirs, vol. iii, pp. 203, 204, 215, 216.) The latter have since been entirely destroyed.

20. A few letters at Ascalon.

21. Deir el Belak, Greek Christian. (See Memoirs, vol. iii, p. 248).

22. Another from the same place. (Memoirs, vol. iii.)

23. Meidân ez Zeid. (Memoirs, vol. iii, p. 250.) A Greek funerary text.

24. A second found in 1877 on the same race course near Gaza. It is not given in the Memoirs. It is Christian, beginning, "The earth is the Lord's and the fulness thereof," and records the facing of some building with stone by the Deacon Alexander. It is probably not older than the fifth century. (See *Quarterly Statement*, 1878, p. 199.)

25. Sheikh Rashed. (Memoirs, vol. iii, p. 253.) A mediæval Greek Christian text in two lines.

26. Greek text in the Hebron Haram (Memoirs, vol. iii, p. 340); this is additional to one already known.

27. Khoreisa. Greek Christian text. "This is the gate of the Lord,

the righteous shall enter in thereat." It is probably of the Byzantine period. (Memoirs, vol. iii, p. 357.)

28. Masada ; a painted text in a cave, the word Kuriokos, "of the Lord." (Memoirs, vol. iii, p. 421.)

29. Umm el Buruk, East of Jordan ; a tablet with the name of Antonius Rufus in Greek. This has yet to be published.

30. 'Ammân. Greek text in the wall of the Cathedral, with the name of Gordiana. To be published in the Memoirs.

31. Jerusalem. A Greek Christian text from the north wall, which has not been previously published, so far as I have been able to ascertain.

32. A text from those of Jerâsh appears to be new (see the account of the Royal visit, *Quarterly Statement*, 1882, p. 219) ; but see also April, 1883, p. 108, and September, 1870, p. 389, where Canon Girdleston gives a yet longer text in hexameter.

ROMAN AND LATIN.

33. Milestone north of Jerusalem. (Memoirs, vol. iii, p. 55.)

34. Milestone at Fukeikîs near Hebron. (Memoirs, vol. iii, p. 328.)

35. Milestone near 'Ammân. To be published in the new Memoir.

36. A fine Gothic tombstone found near the Zion scarp by H. Maudslay. Noticed in the Jerusalem Volume of the Memoirs.

NABATHEAN.

36–37–38–39. Four texts from Medeba, found by Latin missionaries, and copied by me in "Jerusalem." As regards these texts, I find that Colonel Sir C. Warren has published another from Umm er Rasâs in the *Quarterly Statement*, 1870, p. 327, which is very valuable for comparison.

C. R. C.

GREEK INSCRIPTIONS.

Those represented in the accompanying plate (figs. 1–8) were copied in 1873 by Rev. W. Wright and myself, in the village and at the tomb of Sûk Wâdy Brarda (the ancient Abila), on the Abana River. Though mentioned in the Memoirs (Special Papers, p. 113), they have not been published. They are in the collection made by Waddington.

There is a fourth tablet uninscribed to the right. These are over a sunk tomb north of the river.

Abila existed as a town in 60 B.C. The Roman inscriptions here date about 250 A.D. The forms of Greek letters are uncial ; but these forms are found at Jerâsh probably as early as the second century A.D. They became common in the fourth and fifth centuries ; all the inscriptions here are funerary.

C. R. C.

SIN AND SAD.

According to the students of literary Arabic the distinction of these two letters is most carefully preserved in speaking, and they are never confused. Nevertheless, even in the dictionaries, a few words may be found which are occasionally written with either.

In our recent survey we found the native scribe, who was intelligent and well-instructed, sometimes unable to distinguish the two letters in the pronunciation by the Bedawin of local names: such as Wâdy Sîr and the ruin of Sûr, and it is commonly said in Syria that the nomadic tribes make no distinction between *Sin* and *Sad*. Even among the teachers of Nahu or correct speech there is a difficulty, for when hard pressed they are obliged to admit that a deeper vowel sound accompanies the *Sad* than that belonging to the *Sin*. Thus even to the present day we have a survival of the syllabary from which the distinction of some Semitic letters originates; and this is but one example of the importance of studying the local peasant dialect of Syria, which is very different in many respects from the polite Arabic of literature, preserving as it does archaisms which are of the highest value for archæological purposes.

C. R. C.

DISTRICTS IN PALESTINE.

The hills north of Jerusalem are divided into various government districts, bearing ethnic names, viz.:—

Beni 'Amîr	....	....	....	Sons of Omar.
Beni Hârith	....	....	....	Sons of Aretas.
Beni Murreh	....	....	....	Sons of bitterness.
Beni Salim	....	....	....	Sons of peace.
Beni Zeid	....	....	....	Sons of increase.
Beni Hamâr	....	....	....	Sons of the ass.
Beni S'aṣ	....	....	....	Sons of stubbornness.
Beni Hasan	....	....	....	Sons of beauty.
Beni Mâlik	....	....	....	Sons of royalty.

These are not pastoral or nomadic, but agricultural districts, with a settled population of Fellahin. There are no Arabs in these districts, and historically the nomadic tribes seem never to have held them. I have never seen any explanation of these names, nor does their origin seem to be known in Palestine. M. Clermont-Ganneau has indicated the interest of the names, but has not explained their origin. Professor Palmer in revising my nomenclature has added the word Arabs to the title, apparently thinking that they applied to existing tribes in Palestine, but the districts are entirely free from nomadic tribes, nor are any existing Arab clans west of Jordan called by these names.

If, however, we turn to the map of Arabia in the days of Muhammed and of Omar, we find the following tribes represented :—

Beni 'Amir, a tribe of the Nejed near Yemana, or again south-east of Medina.

Beni Hârith, a tribe of Yemen north-east of Sana.

Beni Murreh, both east of Medina, and south of the Jauf Oasis.

Beni Suleim, east of Medina.

Beni Mâlik, a division of the Beni Temîm, who lived near Yemâna.

It was with the aid of these and other tribes that the famous Khaled defeated the Romans on the Hieromax in 634 A.D. ; and under Omar they swept over Palestine soon after.

It seems therefore probable that in these local names we have a trace of Omar's Conquest of Syria, and that the hills of Judea and Samaria were regularly portioned out among his followers. The noble families of Jerusalem still claim to have "come over with the conqueror" at this time. We have thus only another instance of the survival in Syria of early Moslem divisions, and the division of the Keis and Yemeni factions, which dates back to the early days of Islam, is still hardly extinct, and is well remembered in Southern Palestine.

This identification of the tribes presents a curious and interesting historic parallel to the division of Canaan by Joshua among the triumphant tribes who (as in Omar's time) entered Palestine from beyond Jordan.

C. R. C.

THE SAMARITAN TEMPLE.

Is there any satisfactory proof that the Samaritans ever erected a temple? Josephus speaks of Sanballat's Temple (2 "Antiq.," viii, 2–7), but gives no account of it, and his Sanballat cannot be the Sanballat of the Bible if he lived in the days of Alexander the Great. In the New Testament only the mountain is noticed (John iv, 20); and Epiphanius in the fifth century speaks of the Samaritans as worshipping in a circle open to the air—such an enclosure as they still use. The Samaritan literature is all very late, and makes Joshua erect a temple which Sanballat only restored. The twelve (or ten) stones which the Samaritans point out as part of their temple are probably terraced walls of Justinian's fortress. On the whole it seems to me probable that they never had anything more than at present, viz., a sacred rock with a well-marked cup hollow in its surface—probably their altar, and enclosures with dry stone walls, where they congregated on the holy mountain.

C. R. C.

LOT'S WIFE.

Irenæus believed Lot's wife to be still visible in his own days near the Dead Sea, "still showing her feminine nature" and apparently not quite a stone. Antoninus Martyr in describing his visit to the locality is careful to controvert the idea that the statue had been diminished by being licked by animals. It must have been to some stone or rock (apparently west of the Dead Sea) that these writers refer. Sir John Maundeville still saw the statue "at the right side" of the Dead Sea. It seems possibly to the peculiar crag now called Kurnet Sahsul Hameid, "the peak whence Hameid (an Arab boy) slipped down," that they all refer. It is a crag somewhat like a human figure, jutting out of the cliffs near Kumrân, not far from the Hajr el Asbah.

C. R. C.

EN ROGEL.

It is pretty generally allowed, I believe, that the real site of En Rogel is the present Virgin's Fountain opposite Zoheleth, and not, as the Crusaders thought, the Bîr Eyûb, which is too far south, and not a spring at all.

The usual translation of En Rogel is "Fuller's Spring," but "Spring of the Foot" has recently been suggested. I would suggest that both are equally unsatisfactory. In Arabic Rijlah means a water channel (*locus ubi aqua fluit*, Freytag), perhaps derived from *rijl* "foot," because such channels are made with the foot by the peasantry. There is an 'Ain Rujeileh or modern En Rogel near the west margin of Sheet XVIII of the Survey.

If En Rogel mean "Spring of the Channel," and if it be—as can be shown on quite independent considerations—the present Virgin's Fountain, the name is evidently derived from the famous rock-cut channel leading from the back of the cave in which the spring rises.

C. R. C.

AIN TABGHAH.

It seems to have escaped notice that this place is mentioned in the Talmud, which is important, as showing the name to be ancient, and thus perhaps presenting a strong argument against the idea that this spring is the one which Josephus intends in speaking of the Fountain of Capharnaum.

The site, as is well known, is between Tell Hûm and Minieh, and fine springs are here dammed up in a reservoir, while several curious round

water-towers (including 'Ain Eyûb) exist immediately to the east. The name means the "Dyer's Spring." (See the notice in the "Princes' Tour in the Holy Land.")

In the Talmud (Tal. Jer. Ekha, ii, 2, v Midrash) a certain Migdol Tzeboya is mentioned, and according to Neubauer was on the Sea of Galilee (Geog. Tal., p. 218), this name meaning "tower of the dyers." (מגדל צבעיא) is identical with the Arabic Tâbjhah. Twenty-four weavers' shops stood at this place. Perhaps this may explain the curious water-towers found both at 'Ain Tâbjhah and near Mejdel. They may have been used as wells in which to steep the stuffs while being dyed, and this explains the name "Tower of Dyers." They clearly were not connected with aqueducts, though a short mill lade led from the great reservoir on the spot, which is probably only about a century old, and built by the Zeidân family.

C. R. C.

KADESH BARNEA.

A SCHOLARLY work by Dr. H. Clay Trumbull has just been published in America respecting the site of this city. I hope I shall not be considered contentious if I take exception to the conclusions of the author, though supported with much care and candour, and shared by many explorers and scholars who have preceded him. There is much that is most valuable in the book, but when we find that Seir and Mount Hor are moved to the west of the Arabah, and that 'Ain Kadîs is shown much further east than on preceding plans, it seems that permanent harm might result from leaving it to be supposed that the question of Kadesh was finally settled.

Taking the questions which I would wish to raise as they occur in the book, I would first note :—

Page 93, *Seir* = Es Seer. This looks well in its English garb, but we must ask first what is the spelling of the Arabic. The Hebrew is שעיר, of which the proper Arabic equivalent is Shar, a word in use with same meaning as the Hebrew, viz., "shaggy." In spite of the authorities quoted it seems that Seer, or Sîr, or Sirr is the common Arabic geographical term found all over Palestine meaning a "route" or "highway," unless it be spelt with *Sad*, in which case it means a sheepfold, or if it be really Sirr it means "gravelly." Until it be shown to contain the guttural of the Hebrew, it cannot be considered to represent Seir, especially as it should begin with *Shin*, not with *Sin* or *Sad*. The distinction made between a Country of Seir and Mount Seir (p. 85) does not seem to be well founded, though necessary to the theory which would find a Seir at Seer independent of Mount Seir, the rugged chain east of the Arabah. Kasr es Sir (p. 94) would mean probably "the sheepfold tower," and as is so often the case among the Bedawîn, the region round

may probably have been named from this ruin. (Compare Sheet XV of Survey of Palestine.)

Page 101, *Edom.* It is no doubt the case that Idumæa was a name applied to the country even as far north as Hebron about the Christian era, but the name Edom or "red" must surely have applied to the red sandstone country, and not to the white chalk plateau of the Tîh.

Page 124, *Rekem.* I fail to find anything to support the view that there were two Rekems, one at Petra, one at 'Ain Kadîs. All the authorities agree that Petra was called Rekem, and the Jews appear most clearly to have believed that Kadesh Barnea was at or near Petra. The second Rekem seems only necessary to the theory of 'Ain Kadîs being Kadesh Barnea.

Page 127, *Hor ha Har.* No reference is given in note, and it seems to me very clear that the references in Numbers xxxiv, 7, 8, are to a Mount Hor in the Lebanon, not to the mountain in Edom. I have tried to show elsewhere that we should probably read Hor ha Khar, "Mountain of the Phœnicians," the change of ח and ה being very slight.

Page 130, *Hor.* Dr. Trumbull says that Josephus does not suggest a particle of evidence in favour of his assertion that Mount Hor was near Petra. I would venture to suggest that he does not agree as to where Jerusalem was, or even as to Sinai. The Mount Hor now shown is that which Josephus believed in, and probably it was as well known as Sinai or any other famous mountain (Carmel, Tabor, Hermon, etc.) which are undoubted, though we have little but tradition in some cases to rely on. Dr. Trumbull accepts the usual Sinai, but the site of that mountain does not rest on any more secure basis than does the traditional site of Mount Hor—both are too famous ever to have been lost. In the case of Mount Hor we have in fact that "consent of tradition" (Jewish, Christian, and Moslem) which, as I tried to show in "Tent Work," is generally indicative of continuous preservation of an ancient site. The position in the border of Edom is quite in accordance with the usual understanding of the desert geography, and the new proposed situation at Jebel Madurah seems far too arbitrary to upset the consensus of tradition and opinion in the matter.

Dr. Trumbull supposes Madurah to be a form of Moseroth (מוסרת), remarking that D and S are convertible in Eastern speech. I do not think this is the case. The soft T and the soft S (*Te* and *Sin*) are convertible, and so are the soft D or Dh and Z (*Dhal*, *Dal*, *Zain*), but I do not recall any instance where D and S are convertible. Dr. Trumbull is surprised (p. 228) that I should suggest Madurah to be the same as Adar, which he appears to consider (p. 280) to be spelt with the guttural *Ain*. In Joshua (xv, 3), however, it is spelt אדר, which is distinct from the Eder (עדר) of another passage (xv, 21). The *Mim* being a servile letter, Madurah if spelt מדרה, which one is led to suppose is the case from Robinson's transliteration, might well be the same as Adar. The site of Eder may perhaps be at the ruin 'Adar, near Gaza.

"Kadessa" (p. 136). It would be worth while to examine this vicinity

carefully, in order to find whether the name Kadessa, reported by Berton, really exists, or was only manufactured for his benefit. No effort seems lately to have been made to discover this.

Page 170, *et seq.* Judging from the Arabic, the word Rekem would seem to mean "variegated," perhaps from the bright colours of the Petra sandstones. (See Freytag, Lex.) The word Kerm (p. 174), spelt with the *Kofh*, generally means a tree stump.

Page 211, "Zephath." The radical meaning of this name in Hebrew and Arabic is the same, "to be clear," "bright," "conspicuous," "shining." The identity of Zephath and Sufâh can hardly be doubted by any who consider the roots whence the two words originate. The suggestion of Sebeita or Sebâta for Zephath has always seemed to me to argue a want of scholarship on the part of Rowlands. The Arabic name seems to be from the root Sebt, "rest," which has not a single letter in common with the root whence Zephath originates. Philogically at least (and I think geographically as well) Robinson's suggestion is preferable to that of Rowlands, because it is radically sound, and the other radically unsound. There was a Zephathah near Mareshab (2 Chron., xiv, 10), which as I have before pointed out survives at the ruin Safieh, a word from the same root as Safah.

Page 212, "Hagar's Well" at Moilâhhi, depends on a tradition of the Beit Hajar. We ought to be informed how this latter name is spelt, whether with *He* or with the guttural. In the latter case it would simply mean "House of Stone," while Moilâhhi is probably a vulgar Bedâwi pronunciation like other words with a supernumerary *Wau*, and means "salt." If a tradition of Hagar does here exist, it is not free from suspicion of monkish origin, and the same may be said of 'Ain Kadîs, for not only have Christian remains been found in this desert, with Arab traditions of Christian settlements, but we also know from Jerome and from Antoninus Martyr of hermitages and monasteries in various parts of the Tîh.

"Hezron," page 228. Dr. Trumbull has omitted to notice what appears to me to be a strong argument, which, as far as I know, I was the first to suggest in the identification of Hezron. He does not himself find this name anywhere in the desert, yet all good maps show the Hadîreh hill west of Wâdy el Yemen. The proper Arabic equivalent of Hazor חצר, is Hadîreh (حضيرة), which has the same meaning, "enclosure;" and the Arabic *Dâd* is one of the two proper equivalents of the Hebrew *Tzadi*. It is strange that Dr. Trumbull should have been quite silent as to this suggestion, which if it be correct settles the Kadesh Barnea question for ever. As to the meaning of Hazor and Hazerim, we found in 1881 that the word Mahder (radically the same) is applied by the Arabs beyond Jordan to the ancient stone circles in at least one case; perhaps such circles exist at Jebel Hadîreh. The thorn enclosures would be called Sîr (see p. 281), and the Hazors seem probably to have been old cromlechs or circles, funereal or of religious use.

Page 276. *Hawy*, usually rendered "winds," will be found to be

derived from a word meaning a gorge or precipice, which fits well in the case of Kaukab el Hawa, and in other instances.

Page 278. The opinion of Levy and other epigraphic authorities is generally supposed to have settled the date of the Sinaitic inscriptions as not earlier than the 4th century.

Page 283. 'Ain el Qadayrât appears to be spelt with a *Dad* by mistake. There is no such root in common Arabic, and the root meaning "omnipotence," is spelt with a *Dal*.

Page 289. The suggestion of 'Ain Qasaymeh for Kaisam (קיסם) is free from philological objection, but Dr. Trumbull should consider Neubauer's curious explanation of the Targum, reading Kaisam for Azmon. The suggestion Qadayrat for Adar is objectionable, because Adar is spelt with *Aleph* and *Dal*, while according to Dr. Trumbull Qadayrat is spelt with a *Dad;* in which case the Hebrew would be not אדר, but קצר. All these suggestions seem to be far too vague to carry conviction; and Qasaymeh probably means "division," or "halving," as the Arabs say. There seems no real reason for rejecting the Arab legend of a Christian boundary at this point (see p. 291), as the district once had a Christian population. The word Azmon is most likely to survive in Arabic in the form *'Atmeh*.

As regards the Exodus route, there is little in Dr. Trumbull's careful paper which will be new to readers of Brugsch, Tomkins, &c. The question of the wall *Shur*, and of the *Yam Suph*, is treated with great clearness and force, and leads to conclusions which will intime be generally accepted.

It is to be regretted, however, that sufficient notice has not been taken of the facts (both geological and engineering), which leave it indisputable that the level of the Red Sea has been changing, and that the Isthmus of Suez has been growing broader within historic times. The existence of a Nile branch down Wâdy Tameilûb, which is important in this connection, is also not noticed. As to Brugsch's idea (p. 327 *et seq.*), that Khetam חטם and Etham איתם are the same, I can only say I agree with Professor Robertson Smith in regarding this as very doubtful. It seems far more probable that the Atuma of the story of Saneha is Etham, and not as generally supposed Edom. The Egyptian sign ⌓ may be read as *D*, but is most often *T*.

Page 331. "The fortress of Kanaan has not heen identified." This seems to be written before Dr. Trumbull had seen my paper on the subject, as my suggestion of Kana'an, a large ruin near Hebron, met with hearty acceptance from Mr. Tomkins.

Special attention should be called to the deduction from Exod. x, 19, which Mr. Trumbull brings forward as showing the direction of the Yam Suph. The rationalistic explanation of the pillar of cloud and of fire which seems suggested on p. 397 is also very interesting.

The map requires a word of notice, for it is not clear why 'Ain Kadîs is there shown much further east in longitude than is the case on Palmer's map or Holland's map. The result of moving Mount Seir and Mount Hor westwards, and Kadîs east, is to bring them much nearer together, but

the site of 'Ain Kadîs is still too far west to suit the requirements of the case. Generally speaking, one feels that the evidence has been rather twisted in favour of 'Ain Kadîs, though Dr. Trumbull has striven to be impartial and candid.

The omission of any notice of Hadireh, and several minor errors above pointed out, seems to spoil the completeness of the work.

Robinson's site at 'Ain Weibeh is conjectural. Perhaps Kadesh may yet be found in the vicinity of Jebel Madurah, where Berton claims to have found the name. The name Wâdy Fikreh, or the "cloven valley," at this place might have some connection with the rock cloven at Kadesh. It has been established that an 'Ain Kadîs does really exist further west, but it is not established that this is the site of En Mishpat. It may be either a monkish site, for the monks were not careful as to the biblical requirement of their sites; or it may indicate that the name Kadesh applied to a large tract, but the Scripture narrative seems clearly to point to a site for Kadesh Barnea close to the Arabah.

The excursus on Set, though interesting, is not novel, and it seems hardly worth while to have revived the suggestion that Set was connected with the Assyrian word Sed, and the Hebrew Shedim, meaning "powerful." Set is more probably connected with Thoth, as meaning a "pillar" or "stone," for both Set and Thoth were pillar gods, and gods of darkness, night, and the moon, and the determinative accompanying the name Set in hieroglyphics is a stone.

The route of the Exodus as laid down by Dr. Trumbull seems to be a mean between three views—those of Brugsch and the traditional, together with that resulting from the latest observations and discoveries. Surely however the wanderings are as meaningless as they well could be, extending from Ism'ailieh to Tell Hîr, and back again west of the Bitter Lakes, to cross the sea at Suez. The view which seems destined to survive is that which discards the old traditional Baal Zephon at Jebel Attakah, and makes the crossing to have occurred near Ism'ailieh. Bir Mejdel, East of El Jesr, is a relic of the name Migdol, and the name of Baal Zephon may perhaps survive in Birket Balah. The old sites near Suez rest on no sound basis, and the fact that the head of the Gulf of Suez was once much further north is now fairly well established.

C. R. C.

ROUND MOUNT CARMEL.

Haifa, 29th November.

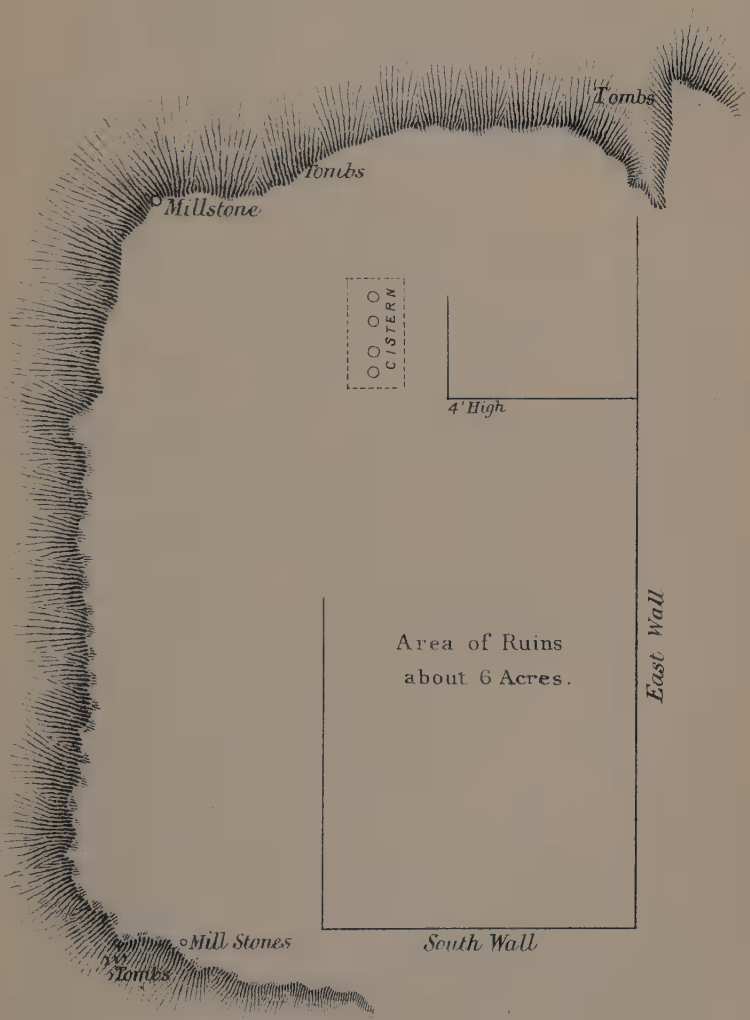
THE confusion which the Crusading nomenclature has introduced into the identification of sites, is nowhere, as Captain Conder has shown, more curiously illustrated than in Haifa and its neighbourhood.

The tradition, first suggested by William of Tyre, that Porphyrion was identical with Haifa, is still firmly clung to by the monks of Carmel, and both Reland and Sepp identify the ruins in the neighbourhood of that town with Porphyrion, basing their arguments, however, upon other than Crusading tradition: the latter admitting that while one Porphyrion

may be eight miles north of Sidon at Khan Yum's, there must have been another near the point of Carmel on the authority of the Onomasticon, which places here a town called Chilzon, which he maintains is the Hebrew name for Murex, the shell which produces the purple dye, and which is found here in considerable quantities. Hence the name Porphyrion. But on analogous grounds the town might rather have occupied the site of the ruins of Haifa el Atikah, where the coast is strewn with such a profusion of fragments of porphyry carvings as are not to be found elsewhere—an hypothesis scarcely sufficient in itself to warrant the identification of a site. The fact that there was a Bishop of Porphyrion who was under the Metropolitan of Cæsarea, only adds to the difficulty, which is not elucidated by any of the itineraries of the pilgrims or ancient travellers, as none of these give the distances between Acre, Cæsarea, and the intervening towns with sufficient accuracy to enable us to identify the places they mention. Thus it happens that there are the ruins of five towns within a short distance of one another on this coast, none of which have been identified with absolute certainty. These are, first, the ruins of Haifa el Atikah, distant a mile and a half from modern Haifa, which may itself be the site of an ancient city; second, those at Tel el Semak, distant two miles from Haifa el Atikah; third, those of Kefr es Sâmir, distant two miles and a half from Tel el Semak; fourth, those of Khurbet el Keniseh, distant two miles and a half from Kefr es Sâmir; and fifth, those of Athlit, the Castra Peregrinorum of the Crusaders, distant three miles and a half from Khurbet el Keniseh. That one of these is Sycaminum, and another Calamon, is pretty certain, and the conclusion generally arrived at is, that the ruin at Tel el Semak is the former, and that at Kefr es Sâmir the latter. It was in the hope that I might find something at Tel el Semak that might throw light on the subject, that I examined the neighbourhood somewhat minutely, and in the course of my explorations stumbled upon a ruin which turned out to be Khurbet Temmaneh,[1] which Guerion vaguely mentions as being somewhere in this vicinity. Attracted by a flight of rock-cut steps near which are some tombs to the left of the road, I scrambled up the steep hill-side through the bushes for about 300 yards, where, at an elevation of 200 feet above the level of the sea, I came upon a comparatively level plateau, about 6 acres in extent, covered with the traces of an ancient town. Fragments of columns and capitals and pieces of carved marble were strewn about in profusion; the rocks in the neighbourhood were honeycombed with tombs: two of the best of these contained six loculi, each in a perfect state of preservation, the entrances to several others were closed; there were traces of rock-cut chambers, two large millstones, and the foundations of walls which may possibly have been those of a fort. This Khurbet lies due east of the mound of Tel el Semak, from which it is distant about 400 yards, and may have formed an upper town to the lower city of Sycaminum. The ruin is bounded on the east side by a wall running nearly due north and south, 112 yards in length, from which at right angles runs a wall 40 yards long, terminating in an angle where it stands to a height of 4 feet from the ground.

[1] On the map Tinâny.

KH. TEMMANEH OR TINÂNY.



Here it turns north for 12 yards. It is composed of rubble from which the ashlar has been removed, and is from 3 to 4 feet in thickness ; the wall bounding the ruin on the south is 65 yards long, commencing from the south corner of the east wall, and the south wall is 70 yards long, terminating apparently near a large cistern with four circular apertures. I had myself let down into this, and found it to be hewn out of the rock, 70 feet in length, 20 feet in breadth, and 12 feet in height ; but the floor was covered with an unknown depth of *débris*. The sides had been cemented, the cement still remaining in parts in a very perfect state of preservation, and the roof was supported by three columns hewn from the living rock, 4 feet square. The annexed plan will give some idea of the ruin. I could find no traces of a wall on the north side, but I think it probable that a little excavation would lay them bare. Near the east wall I picked up a fragment of marble on which had been carved the word "Allah," and two or three other letters indicated that it was the commencement of an old Arabic inscription, though the characters were not Cufic.

I take this opportunity of adding a few notes of objects of interest which have come under my observation in the course of my rides in this neighbourhood. At Kefr Lam (Sheet 7, I *i*) the fellahin have, since the visit of the officers of the Palestine Survey, opened an ancient well, which furnishes them with a good supply of water. It is 35 feet deep, and approached by a flight of steps, partly hewn out of the solid rock and partly artificial ; the sides of the well, the mouth of which is about 30 feet square, are also partly of masonry and partly of hewn rock. In the neighbourhood are two rock-hewn chambers, or they may possibly have been cisterns ; the largest was 15 feet square, and spanned in the centre by a single stone 15 feet long and 2 feet broad by 2 deep. Cut in the rock at intervals of about 8 inches were two rows of holes, which may have been used for supporting rafters. The fellahin also pointed out to me two stone vaults, 40 feet long by 12 feet broad and 7 feet high. The roofs consisted of massive blocks of stone, which were supported in the case of each vault by five arches, each arch hewn from a single block of stone 4 feet in breadth, thus leaving a comparatively narrow interval between each arch, and forming a chamber of a very peculiar construction. At Zimmârin (Sheet 8, K *j*) the Jews, who are settled there in a colony, have in the course of their operations also brought to light a curious chamber, 10 feet by 8 feet and 10 feet deep ; on three sides it is hewn out of the living rock ; on the longest side have been cut four rows of eighteen holes, each hole being 6 inches square and about 6 inches deep at the base, but standing upwards ; on the shorter sides there are four rows of ten holes, each row being about 3 inches above the one below it. Whether these entered into the construction of the roof of the chamber or served some religious purpose for which the room may have been originally designed, I am unable to conjecture.[1] At El Makura, a

[1] The survey party came across a number of those rock-hewn chambers along the ridge running parallel to and near the coast line, having square pigeon-holes in rows of about the same dimensions ; some chambers had steps leading down, others not.—G.A.

Khurbet near Ijzim (Sheet 8, J *j*) I found the largest rock-hewn cistern[1] which I have yet observed in this part of the country. It measured 98 feet long by 40 feet in width. The bottom was so full of undergrowth that it is impossible to conjecture the real depth, but it was doubtless capable of containing an abundant supply of water. Should the country ever be re-populated, many of these ancient cisterns could be utilised. I was myself fortunate enough to discover a bell-shaped cistern at Dâlieh, which only required cleaning out and re-cementing, in a position which has since enabled me to turn it to good account; in excavating near it I came upon the foundations of an old house, apparently of Byzantine times, which have since served me for the foundations of a new one, and unearthed twelve large iron rings, 3 inches in diameter, with iron staples 4 inches long attached—probably used for fastening horses, some coins of the time of Constantine, some carved cornices and drafted stones, and a great quantity of fragments of glass, stems of vases, and rims of drinking goblets, and heaps of broken pottery, while the neighbouring field is abundantly strewn with tesseræ, giving evidence that the former occupier must have been a man of means, and that more excavation may bring further evidences of it to light. In the course of my rides over Carmel I have observed erections[2] which I do not see mentioned in the Survey. The most perfect of these lies about half-way between Dâlieh and the Mahrakah, a little off the road to the left, concealed in the thick brushwood. It is a pile of stones 14 feet square by 12 feet high, the stones averaging 3 feet in length by 2 feet in breadth and 1 foot in thickness. They have been carefully cut, and laid so as to form a perfect square, but without cement. I have since come upon five or six similar erections, generally in very remote and unfrequented spots, and the natives can give me no tradition in regard to them.[3]

At Khurbet Keramis, near Umm es Zeinat (Sheet 8, K *j*), I found two underground vaults, each 20 feet long by 10 feet broad and 5 feet high; but they were much filled with rubbish, also foundations, and drafted stones. Standing in close proximity to each other were what at first appeared to be the base of four gigantic columns, as they stood 4 feet high from the ground and were about 6 feet in diameter; from the square hole in the centre of each they appear to have been the lower halves of mills.

A mile and a half, a little to the east of south, of Dâlieh er Ruhah (Sheet 8, K *k*) I found a Khurbet Umm Edd Foof أص المغوف where there were tombs, cisterns, millstones, and the usual foundations and heaps of stone.

At Rushmia, which is situated on Mount Carmel, at an elevation of about 700 feet above the sea, distant an hour's ride from Haifa, and described in the Memoirs, I am engaged with a friend in making

[1] Marked on the map Bkt = Birket.

[2] Probably old watch towers (vineyard ?), which are found on many of the spurs of Carmel; also in the wooded country to the south of Umm el Fahur. They vary in dimensions, but generally measure 12 to 15 feet square of dry stone masonry. Those in a fair state of preservation are usually found in the thickets of copse wood.—G.A. See Mr. Drake's Reports, *Quarterly Statement*, 1873, p. 31.

[3] Usually called El Muntâr (watch tower).

an excavation at the well of Elias, with a view of seeing whether the spring affords a sufficient amount of water to furnish a supply for the town of Haifa, in view of the change contemplated by the Government of moving the seat of the Mutessariflik from Acre to this place. The water enters the well through an apparently natural tunnel, but has no outlet from the well itself, which thus becomes a sort of backwater, the native tradition being that the spring is much further up, and is in fact the source of a small rivulet, which, after an underground course, reappears in the gardens below Haifa, and forms there a small lagoon. We first endeavoured to strike this stream about 20 yards below the well, down the wâdy, but, beyond finding some cut stones at a considerable depth, made no discovery. We then dug in the immediate neighbourhood of the well, and came upon the roof of an artificial tunnel; on opening this we found it completely filled with the soil, which had silted into it, and at a depth of 7 feet from the surface came upon the stone floor in which a channel had been cut for the water. As the water in the well was, however, now 4 inches lower than this channel, we have had to take it up. We followed this tunnel for 10 yards; the roof was arched and the sides built of stone, both hewn and unhewn, but without cement. Altogether, we cleared a channel 30 yards long and 8 feet deep, into which we let the water; but the operation of following up the channel, by which it reaches the well, and in which it somewhere loses a good deal of its volume, is not yet sufficiently completed to enable us to decide whether it will be worth conveying to Haifa, a distance of over three miles.

LAURENCE OLIPHANT.

BETH HABBECHEREH, OR THE CHOSEN HOUSE.

CHAPTER I.

1. IT was an affirmative command[1] to make a house for the Lord suitable for offering in it the offerings, and celebrating the feasts thereat, three times in a year, as is said, "and let them make me a Sanctuary" (Exod. xxv, 8). The Tabernacle made by Moses our master has already been described in *the Book of* the Law. It was temporary as is said "for ye are not as yet come," &c. (Deut. xii, 9).

2. After the *children of Israel* entered the *promised* land,[2] they placed the tabernacle at Gilgal for fourteen years, whilst they subdued and divided *the land*. And thence they came to Shiloh and built there a house of stones, and spread the curtains of the Tabernacle over it, and it was not roofed there. The Tabernacle of Shiloh stood 369 years, and after the death of Eli it was destroyed, and they came to Nob, and there built a Sanctuary. After the death of Samuel *this* was destroyed, and they came

[1] מצות עשה. The Rabbis enumerate 613 commandments, of which 248 are מצות עשה, *præcepta affirmantia*, and 365 מצות לא תעשה, *præcepta prohibentia*.

[2] "Three commands were given to Israel on their entrance into the land: to set up a king over them; to cut off the seed of Amalek; and to build the chosen house."—Sanhederim 20 *b*.

to Gideon and built there a Sanctuary, and from Gibeon they came to the eternal house, and the days of Nob and Gibeon were 57 years.

3. After the Sanctuary was built at Jerusalem, all the other places were unlawful for building in them a house for the Lord and offering in them offerings (Deut. xii, 11, 14). And no other was called a house for all generations, except that at Jerusalem only and on Mount Moriah,[3] of which it is said, "then David said, this is the house of the Lord God, and this is the altar of the burnt offering of Israel" (1 Chron. xxii, 1), and he said "this is my rest for ever." (Psalm cxxxii, 14.)

4. The building which Solomon built has been already described in the *book of* Kings, and the building to be built in the future, although it is written in Ezekiel, is not fully described and explained. The men of the second house (which they built in the days of Ezra) built it like the building of Solomon, and after the appearance of the things[4] explained in Ezekiel.

5. And these are the things which were fundamental in the building of the house.[5] They made in it a holy *place*, and a holy of holies, and there was in front of the holy *place* a certain place which was called the porch, and these three were called היכל, hekhal, the Temple.[6] And they made

[3] Zevachim xiv, 4. "Before the Tabernacle was erected the high places were permitted, and the priestly functions were performed by the first-born *of families*. After the erection of the Tabernacle the high places were forbidden, and the priestly functions were performed by the priests; the most holy offerings were eaten within the hangings, the less holy in all the camp of Israel. 5. When they came to Gilgal and made the high places lawful; the most holy offerings were eaten within the hangings, the less holy in any place. 6. When they came to Shiloh high places were forbidden. There was no roof *to the Tabernacle* there, but a house of stones below and curtains above. And this was the 'rest.' (Deut. xii, 9.) The most holy offerings were eaten within the hangings, and the less holy and the second tithes in any place from which *Shiloh* could be seen. 7. When they came to Nob and Gibeon, they permitted the high places; the most holy offerings were eaten within the hangings, and the less holy in all the cities of Israel. 8. And when they came to Jerusalem, high places were forbidden, and were never afterwards permitted, and this was the 'inheritance.' (Deut. xii, 9.) The most holy offerings were eaten within the hangings (*i.e.*, the wall of the court), and the less holy and the second tithes within the wall" (of Jerusalem—*Rashi*). The Gamara adds (Zev. 118 *b.*): "The Rabbis teach that the days of the Tabernacle of the congregation in the wilderness were forty years, less one; the days of the Tabernacle of the congregation at Gilgal fourteen; seven whilst they were subduing, and seven whilst they were dividing, *the land*, the days of the Tabernacle of the congregation at Nob and Gibeon fifty-seven. It remained at Shiloh three hundred and seventy years less one."

[4] Or "in some things like."

[5] *Cf.* Middoth ii, 5; iii, 1; iv, 2.

[6] היכל, Hekhal=*vaos* in its wider sense, as in Josephus, B. J. V, v, 3. It were to be wished that the precision of nomenclature here aimed at by our author had always been observed. But this is far from being the case. The

another outer boundary surrounding the temple distant from it like the hangings of the court *of the Tabernacle* which was in the wilderness, and all that was surrounded by this boundary,[7] which corresponded[8] to the court of the Tabernacle of the congregation was what was called the court, and the whole was called the Sanctuary.[9]

6. And they made vessels[10] for the Sanctuary, an altar for burnt sacrifices and other offerings, and a sloping ascent by which they went up to the altar, and its place was in front of the porch, a little[11] to the south; also a laver with its base, to sanctify[12] from it the hands and feet of the priests for the service, and its place was between the porch and the altar, a little to the south, so that it was on the left of a person entering the Sanctuary; also they made an altar for incense, and a candlestick and a table, which three were inside the holy *place*, in front of the holy of holies.

7. The candlestick *stood* on the south, to the left of a person entering, and the table on which was the shewbread to the right, and both of them on the outer side of the Holy of Holies, and the altar of incense stood between them both a little to the outside.[13] And they made within[14] the court boundaries marking the limits of Israel and of the Priests[15] and they built there houses for the other requirements of the Sanctuary, and each of these houses was called a chamber.[16]

8. When they built the Temple and the court, they built of large stones, and if they did not find stones, they built of bricks.[17] And they

Talmud repeatedly speaks of the porch and the temple אולם והיכל (Yoma 12 *a*, Megillah 26 *a*), and Maimonides himself has elsewhere distinguished between the היכל and the Holy of Holies (*infra*, vii, 22).

[7] Exodus xxxviii, 9.

[8] כעין "like the appearance of."

[9] *Cf.* Middoth ii, 3; iv, v, for the contents of thi paragraph. The concluding sentence "and the whole was called the Sanctuary," מקדש, *mikdash*, is an inference from such passages as Middoth i, 1.

[10] Pots, pans, shovels, tongs, instruments of music, &c. The word *Kelim*, כלים has a very wide signification. *Cf.* Exodus xxvii, 19.

[11] Literally "drawn to the South."

[12] To wash.

[13] Literally "the altar of incense drawn from between them both towards the outside." In Yoma, 33 *b*, it is said "we are taught that the table was on the north two cubits and a half from the wall, and the candlestick on the south two cubits and a half from the wall. The altar was between and stood in the middle drawn towards the outside," *i.e.*, towards the porch.

[14] Literally "in the midst or inside."

[15] Middoth ii, 6.

[16] לשכה *liskah*. Middoth i, 1, 5, 6; v, 4, and in very many other places in the Talmud.

[17] The opinion that bricks were employed in the construction of the Temple appears to be derived from a passage in Mechilta (מזבח אדמה, page 74, Friedmann's edition, Vienna 1870), where, commenting on Exodus xx, 25, it is argued "thou wilt make me an altar of stone" is a permission, not a duty; and what but this does it teach? that if it is desired to make an altar of stone, let it

did not cut the stones of the building in the mountain of the house, but they cut and fitted them outside, and afterwards brought them in for the building, as it is said "great stones, costly stones, *and* hewed stones, to lay the foundation of the house" (1 Kings v, 17) and, "neither hammer nor axe, nor any tool of iron was heard in the house while it was in building"[18] (1 Kings, vi, 7).

be made of stone; if of bricks, let it be made of bricks. And if this power of election was permitted in the case of the altar (which was peculiarly sacred), *à fortiori* it might be permitted in reference to everything else (כל הכלים, *every vessel*) in the Sanctuary. Yet it is to be observed that the opinion here expressed in reference to the passage "thou will make me an altar of stone" was not regarded as authoritative. (*Vide infra*, i, 13.)

[18] Mechilta, p. 74. The rabbinical writers appear always to assume that in the building of the second temple, as in the building of the first, the stones were not cut and dressed on the spot. The great pillar lying within the Russian compound at Jerusalem, which not improbably was intended for Herod's cloisters, has its upper surface partially dressed, and the discovery of a flaw appears to have caused it to be abandomed before completion. Another pillar of about the same size, smoothed on as much of the surface as could be reached before the stone was separated from the rock, was discovered a few years ago about 200 yards south-west from the same spot, and it hence appears probable that the great stones of the later temple were dressed in the quarry. The pillar of smaller size which may be seen still joined to the rock on the north of the old road to Lifta, although cut into shape, has not been smoothed.

In Sotah, 48 *b*, is the following passage bearing upon this subject: "After the Holy House was destroyed the worm Shamir ceased," &c. (Mishna ix, 12). The Rabbis teach that it was by means of the Shamir that Solomon built the Holy House, as is said, "and the house when it was in building was built of perfect stone from the quarry" (*unbehauene Steine des Steinbruchs*—Gesenius) (1 Kings vi, 7). The words are to be interpreted literally. The words of Rabbi Judah Rabbi Nehemiah said to him. Is it possible to say so, when it has been said, all these stones were "costly stones, &c., sawed with a saw?" (1 Kings vii, 9), and if so, how are we taught to say that there "was not heard in the house the *sound of hammer*, &c., while it was in building?" (1 Kings vi, 7). Because they prepared the stones outside, and brought them in. (*Cf.* Mechilta, ch. מזבח אדמה.)

Rab said, "the words of R. Judah appear to refer to the stones of the Sanctuary, and the words of R. Nehemiah to the stones of his (Solomon's) house. And *in reference to the opinion expressed by* R. Nehemiah, for what purpose did the Shamir come? It was required for this, as we are taught, that those stones (*the stones of the breast-plate*), were not written with ink, because it is said "*like* the engravings of a signet" (Exodus xxxix, 14). And they did not engrave them with a chisel, because it is said "in their fulness" (inclosings A. V.) (Exodus xxxix, 13), but they wrote upon them with ink and showed the worm to them from the outside, and they became opened by themselves just as a fig becomes opened in the hot days, and there was no loss *of substance;* like a plain which becomes channeled in the days of the great rains without loss. The Rabbis teach that the Shamir was a creature like a barley corn, and was created in the six days of the Creation, and there was no hard thing that could stand before it. How did they preserve it? They wrapped it in a mass (literally

9. And they did not build in it any projection of wood, but either of stones, or of bricks and lime; and in all the court they made no porches (exhedræ) of wood, but either of stones or of bricks.[19]

10. And they paved the whole court with costly stones, and if a stone was dislodged, notwithstanding that it remained in its place, it was profane so long as it moved, and it was unlawful for the officiating priest to stand upon it at the time of the service until it was fixed in the earth.[20]

11. And it was a command to strengthen in the best manner possible

sponge) of wool, and put it into a leaden casket filled with barley bran." This worm is said by R. David to have been brought by an eagle from Paradise (Buxtorf. Lex. Talm. שמיר).

[19] This is founded upon Deut. xvi, 21, which by the Talmudists is held to prohibit the placing any wooden erection near the altar (Tamid 28 *b*). Two difficulties arise out of this passage, namely, 1, that there was in the south side of the court a chamber of wood (Midd. v, 4), and 2, that there was, according to Middoth, our author, and other writers, a wooden balcony surrounding the inside of the court of the women. The first is met by supposing that the chamber in the court was not constructed of wood, but was for the storing of (picked) wood (Midd. ii, 5) for the altar; and in reference to the second, it is suggested, 1, that the expression "near unto the altar of the Lord" was applicable only to that portion of the temple which was inside of the gate Nicanor, and 2, that the balconies for the women were only temporary, being put up for the rejoicings at the Feast of Tabernacles which took place in the *beth hashshaavah* which was in the court of the women. (Succah v, 1; Piske Toseph. ad Midd.) The beams of cedar wood which passed between the front of the temple and the porch, and the cedar roofs of the little pillars by the slaughtering place, were not considered to be projections. For the *exhedræ* in the court, see Tamid i, 3, where it is related that the priests and their overseer, when they passed out of Moked into the court early in the morning, divided into two companies, the one going by the *exhedra* towards the east, and the others going by the *exhedra* towards the west." The Gamara explains that these *exhedræ* were of masonry. Once in seven years, on the first day of the Feast of Tabernacles, a pulpit of wood was erected in the court of the women, from which the king read portions of the law (Sotah vii, 8).

[20] Zevachim ii, 1, 24 *a*. A priest (whilst receiving the blood) might not sit nor stand upon any vessel, or upon a beast, or upon the foot of a fellow-priest. If he chose to stand upon one leg whilst performing his service he was at liberty to do so, but not when he had no service to perform. In connection with the stones of the pavement the student of the Mishnas will remember the story in Shekalim vi, 2: "It happened that as a priest was engaged in his duties he noticed that *one part of* the pavement was changed in appearance from the rest. He came and told his companions, but before he could finish the account he died, and they knew that there the ark was certainly hidden." This priest had a blemish, and was employed in picking wood for the altar (Midd. ii, 5), and it was in consequence of this tradition that the families of Gamaliel and Hananiah were accustomed to make obeisance towards the chamber of wood in the court of the women.

the building, and to raise it as high as the means of the congregation permitted, as is said (Ezra, ix, 9) "to set up the house of our God." And they adorned and beautified it according to their power, and if they were able to overlay it with gold[21] and to magnify the work of it, lo, that was a good deed![22]

12. They did not build the Sanctuary by night, as is said (Numb. ix, 15), "on the day that the tabernacle was reared up," by day they reared *it* up, not by night.[23] And they were employed in building from the rising of the morning until the stars came out.[24] And all were obliged to assist in the building, both by their own individual exertions and by their means, men and women, as in the Sanctuary in the wilderness.[25] They did not intermit the instruction of children in the schools for the building,[26] nor did the building of the Sanctuary annul a feast day.

13. They made the altar of stone[27] masonry only, and that which is said in the Law, "an altar of earth thou shalt make unto me" (Exod. xx, 24), *means* that it should be joined to the earth, that they should not build it either upon arches, or over cavities,[28] and that which is said, "*if thou wilt make me* an altar of stone" (Exod. xx, 25), tradition teaches that this is not a permission but an obligation.[29]

[21] Solomon overlaid the whole house, the altar, the doors, the cherubim, and the floor of the house with gold. (1 Kings vi, 22, 28, 30, 32.)

[22] מצוה. Literally "a *commandment*," a *good deed prescribed by the law.*

[23] Shevuoth 15 *b*.

[24] Nehemiah iv, 21.

[25] Exodus xxxv, 22, 25; xxxvi, 8.

[26] Shabbath 119 *b*. "They did not intermit the instruction of children in the schools, even for the building of the Sanctuary."

Shevuoth 15 *b*. The work of building the Sanctuary being of less importance than keeping a feast-day was intermitted until the feast-day was over.

[27] Some copies wrongly read here אבנים גזית, *hewn stones.*

[28] Mechilta 73 *a*. Rabbi Ishmael said, "an altar of earth thou shalt make unto me—an altar joined to the earth thou shalt make unto me, thou shalt not build it upon arches or upon pillars." The compilers of the Gamara adopted this opinion (Zevachim 58 *a*, and 61 *b*), and Maimonides has followed the Gamara.

[29] Mechilta 73 *b*. "Rabbi Ishmael said every 'if' in the Law is a permission, not an obligation, except three:—

1. Leviticus ii, 14. "And if thou offer an offering of thy first-fruits," this is an obligation. "If thou sayest is it obligation or only a permission?" we are taught to say "thou shalt offer for the meat-offering of thy first-fruits" (Exod. ii, 14 *b*), which is an obligation, not a permission.

2. Exodus xxii, 25. "If thou lend money to any of my people," &c., this is an obligation, and if thou sayest "is it an obligation or only a permission?" we are taught to say "thou shalt surely lend him" (Deut. xv, 8), which is an obligation, not a permission.

3. Exodus xx, 25. "If thou wilt make me an altar of stone;" this is an obligation, and if thou sayest "is it an obligation or only a permission?" we are taught to say "thou shalt build of whole stones" (Deut. xxvii, 6), which is an obligation, not a permission. (*Cf.* note 1, page 29.)

14. Every stone which had a flaw in it sufficient to arrest the finger nail, like the knife for slaughtering,[30] lo, that was unlawful for the sloping ascent and for the altar,[31] as is said "thou shalt build the altar of the Lord thy God of whole stones" (Deut. xxvii, 6). And whence did they bring the stones of the altar? From virgin earth,[32] they dug until they came to a place in which it was evident there had been no work or building, and they brought out the stones from it, or from the great sea,[33] and built with them. And the stones of the temple, and of the courts were also perfect stones.[34]

[30] Few Jewish observances have been held to be of greater importance than the use of a very sharp knife for slaughtering. Whoever slaughtered without first causing his knife to be examined before a rabbi was liable to excommunication (Cholin 18 *a*). One of several methods of examining the knife is by drawing its edge over the finger nail (*ibid.* 17 *b*, where the subject is discussed at length). "And what constituted a flaw in the altar?" As much *unevenness of surface* as arrested the finger-nail. They repeat, what constituted a flaw in the altar? R. Simeon ben Jochai said as much as a handbreadth. R. Eleazer ben Jacob said as much as an olive. There is here no contradiction. This (the opinions of R. Simeon and R. Jacob) refers to the lime, and that (the opinion first expressed) to the stones (Cholin 18 *a*).

[31] That the same rule applied to the sloping ascent as to the altar appears from Middoth iii, 4.

[32] "The virginity of the earth," מן בתולת הקרקע, Middoth iii, 4.

[33] In the Tosefoth to Cholin (18 *a*) it is enquired how they built the altar of smooth stones since they were not permitted to use an iron instrument for smoothing them, and the *shamir* could not make them so smooth that the finger-nail would not be arrested in passing over them, and says that the meaning of the passage in Zevachim (54 *a*) is that they built of small stones in which was no flaw, like the stones of a torrent, נחל. The notion that stones were brought from "the great sea" appears to depend upon the interpretation of the word מפולמות (Zevachim 54 *a*), which is from a root signifying *fresh, moist.* "Bohu, בהו (A.V., *void*, Genesis i, 2), means those recent stones which were sunk in the abyss, and from which the waters flowed" (Chagigah 12 *a*); and the gloss says, מפולמות (the word in question), has the meaning of moist or recent, ליחלוח.

[34] Maimonides does not mean here by the expression אבנים שלימות "perfect stones," that the stones of the temple and courts were not hewn, but that they were highly finished. (*Cf.* Tamid 26 *b*, and the gloss; also Sotah 48 *b*, quoted above, and Mechilta 74.)

"He that did not see the Sanctuary, with its buildings, never saw beautiful building. Which building was it? Abai said, and some say that R. Khasdai *said* that was the building of Herod. Of what did he build it? Rabba said באבנים שישא ומרמרא, of different kinds of marble. Some say באבני שישא כוחלי ומרמרא of coloured marble and white marble. One lip projected and one lip receded in order that it might receive the lime (plaster). He thought to overlay it with gold, *but* the Rabbis said to him let it be, it is very beautiful so, for its appearance is like the waves of the sea" (Succah 51 *b*; Baba Bathra 4 *a*). The gloss of Rashi adds "שישא, *shisha*, coloured marble, neither white nor

15. Stones of the temple and courts which became broken or cut were unlawful, and they could not be redeemed, but where laid by and preserved.[35] Every stone which iron had touched, even though it was not cut, became unlawful for the building of the altar, and the building of the sloping ascent,[36] as is said "for if thou lift up thy tool upon it thou hast polluted it" (Exod. xx, 25), and whoever should build a stone which iron had touched into the altar was beaten, as is said "thou shalt not build it of hewn stone" (Exod. xx, 25); and whoever built in a stone with a flaw transgressed an affirmative command.[37]

16. A stone which became broken or touched by iron after being built into the altar or the sloping ascent was unlawful, and the rest were lawful. They whitened the altar twice a year at Passover, and at the Feast of Tabernacles. And when they whitened it, they whitened it with a cloth, and not with an iron trowel, lest it should touch a stone and defile.[38]

17. They did not make stairs to the altar, as is said "neither shalt thou go up by steps unto mine altar" (Exod. xx, 26), but they built a kind of mound on the south of the altar diminishing and descending from the top of the altar to the ground, and this is what was called *Kebesh*,[39] and whoever ascended by steps to the altar was beaten. And whoever should pull down a stone from the altar or from any part of the temple, or from between the porch and the altar with the view of injuring it was beaten, as is said "Ye shall overthrow their altars," &c., and "ye shall not do so unto the Lord your God"[40] (Deut. xii, 3, 4).

black, but a kind of yellow, ירוק, called in the barbarian tongue *bis.* מרמרא, *marmora*, white marble. כוחלא, *Kochala*, marble coloured, as if stained. "One lip projected," one row of stones went in and one went out. "Like the waves of the sea," because the stones differed in appearance one from another, and the eye in contemplating them moved to and fro, and they appeared like those waves of the sea which are moved and agitated."

[35] That is, they could not be sold or used for any other purpose (Tosefta Megillah, ch. 2).

[36] Middoth iii, 4.

[37] Deuteronomy xxvii, 6. "Thou shalt build the altar of the Lord thy God of whole stones."

[38] Middoth iii, 4. It happened once at the Feast of Tabernacles that the officiating priest poured the water upon his leg, and the people pelted him with their lemons ("and with stones," gloss) and caused a flaw in the horn of the altar, which they stopped up with a mass of salt (Succah 48 *b*; Zevach. 62 *a*).

[39] Middoth iii, 4; Zevachim 62 *b*. "The Kebesh was on the south of the altar."

[40] Sifre, page 87, Friedmann's edition, Vienna, 1864. Whence *do we learn* that to take away a stone from the Temple, or from the altar, or from the courts is a transgression of a negative commandment? The doctrine is to say "ye shall overthrow their altars," and "ye shall not do so unto the Lord your God" (Deut. xii, 3, 4). Why Maimonides has here mentioned the space between the porch and the altar instead of the courts, does not appear. In the corresponding passage in his treatise, יסודי התורה, 6, 7, he has "from the altar, or from the Temple, or from the rest of the court."

18. The candlestick and its vessels, the table *of shewbread* and its vessels, and the altar of incense and all the vessels of service, they made of metal only. And if they were made of wood, or bone, or stone, or of glass, they were unlawful.[41]

19. If the congregation קהל was poor, they made them even of tin, and if they became rich, they made them of gold, even the basins, and the flesh hooks, and the shovels of the altar of burnt-offering. And if the community had the power, they made the measures of gold. Even the gates of the court they covered with gold if they were able.[42]

20. All the vessels *of the Sanctuary* were made expressly for sacred use, and such as were made for ordinary purposes could not be used for sacred purposes. Sacred vessels which had not yet been used for sacred purposes might be used for ordinary purposes, but after they had been used for sacred purposes, it was unlawful to use them for ordinary purposes. Stones and beams cut for a synagogue could not be employed for a building in the mountain of the house.[43]

CHAPTER II.

1. The position of the altar was determined with great care,[1] nor did they ever change it from its place, as is said, "this *is* the altar of the burnt offering for Israel" (1 Chron. xxii, 1). And in the sanctuary Isaak our father was bound, as is said, "and get thee into the land of Moriah" (Gen. xxii, 2), and it is said in the Chronicles (2 iii, 1), "then Solomon began to build the house of the Lord at Jerusalem in Mount Moriah, where the Lord appeared unto David his father, in the place that David had prepared in the threshing floor of Ornan the Jebusite."

2. And it is a constant tradition[2] that the place in which David and Solomon built the altar in the threshing-floor of Araunah is the place in which Abraham built the altar and bound upon it Isaac. And it is the place in which Noah built when he went out of the ark, and

[41] The question of what material it was lawful to make the candlestick is discussed in Menachoth 28 *b*. The prevailing opinion of the Rabbis was that if made of wood, or of bone, or of glass, it was unlawful.

[42] "Because they saw the flesh-hooks were of iron they covered them with tin; when they became rich they made them of silver; and when they again became rich they made them of gold" (Menachoth 28 *b*; Avodah Zarah 43 *a*; Rosh Hashshanah 24 *b*). "Monbaz (Monobasus) the king made all the handles of the vessels of the Day of Atonement of gold, and Helena, his mother, made the candlestick of gold which was at the door of the temple" (Yoma iii, 10). That the gates of the court were covered with gold is related in Middoth ii, 3.

[43] The authority for this paragraph is Tosefta Megillah c, 2. But in the Tosefta there is no mention of stones, &c., prepared for a synagogue; the passage runs, "stones and beams cut for an ordinary *building*," &c.

[1] "Three prophets came up with them from the captivity . . . . one testified to them respecting the place of the altar" (Zevachim 62 *a*).

[2] מסורת ביד הכל. A tradition by the hand of all.

it is the altar upon which Cain and Abel offered, and there [בה] the first Adam offered an offering[3] after he was created, and from there he was created. The wise men have said that Adam was created from the place of his redemption.[4]

3. The measures of the altar were carefully studied and its form was known traditionally. And the altar which the sons of the captivity built they made like the appearance of the altar which is to be built in the future, and nothing is to be added to its measure nor diminished from it![5]

4. And three prophets came up with them from the captivity; one testified to them respecting the place of the altar, one testified to them respecting its measures, and one testified to them that they should offer upon that altar all the offerings, even though there was no house there.[6]

5. The altar which Moses made, and *that* which Solomon made, and *that* which the children of the captivity made, and *that* which is to be made in the future all are ten cubits high, each one of them, and that which is written in the Law, "and the height thereof *shall be* three

[3] Pirke R. Eliezer, ch. 31; Yalkut Simeon, וירא אליו, 101. The latter does not mention Adam but only Cain, Abel, and Noah.

[4] "And the Lord God formed man of the dust of the ground" (Genesis ii, 7). "Rabbi Judah ben Pazy said the Holy One, blessed be He, took one spoonful, מלא תרווד אחד, from the place of the altar and created from it the first Adam" (Jerus. Nazir 56 *a*, 2 (19 *a*)). תרווד has been used as synonymous with לוז, the famous incorruptible bone from which the body is to be rehabilitated at the Resurrection (Buxtorf Lex. Talm. 2646).

> "The learned Rabbins of the Jews
> Write there's a bone, which they call *leuz*,
> I' th' rump of man, of such a virtue,
> No force in nature can do hurt to;
> And therefore at the last great day,
> All th' other members shall, they say,
> Spring out of this, as from a seed
> All sorts of vegetals proceed;
> From whence the learned sons of art
> Os sacrum justly stile that part."—*Hudibras*, iii, 2.

[5] *Cf.* Menachoth 97 and 98.

[6] Zevachim 62 *a*. "Three prophets came up with them from the captivity; one who testified to them respecting the altar, and one who testified to them respecting the place of the altar, and one who testified to them that they should offer *offerings* even though there was no house . . . Rabbi Eliezer ben Yacob said three prophets came up with them from the captivity, one who testified to them respecting the altar and the place of the altar, and one who testified to them that they should offer *offerings*, even though there was no house, and one who testified to them respecting the law, that it should be written in the Assyrian character [*i.e.* square Hebrew]." These prophets were Haggai, Zechariah, and Malachi (Rashi).

cubits" (Exod. xxvii, 1), *refers to* the place of the pile [fire] only.[7] And the altar which the children of the captivity made, and also that which is to be built in the future, the measure of its length and of its breadth *is* two and thirty cubits by two and thirty cubits.[8]

6. Of the ten cubits in the height of the altar some were of five handbreadths and some of six handbreadths, and all the rest of the cubits of the building were of six handbreadths, and the height of the whole altar was fifty-eight handbreadths.[9]

7. And thus was its measure and its form. It rose five handbreadths and receded five; this was the foundation. The breadth was now thirty

[7] Zevachim 59 *b*. The doctrine is that the words "and three cubits the height thereof" [Exod. xxxviii, 1], are to be taken literally. The words of Rabbi Judah. Rabbi Jose said "it is said here 'foursquare,' and it is said there 'foursquare' [Exod. xxxvii, 25, in reference to the altar of incense], as there its height was twice its length, so here twice its length." Rabbi Judah said to him, "and is it not said 'and the court an hundred cubits' [Exod. xxvii, 18; xxxviii, 9], and 'the height five cubits,' &c. [Exod. xxxviii, 18]. Possibly the priest standing upon the top of the altar performing his service all the people could see him from without." Rabbi Jose said to him, "and is it not said 'and the hangings of the court, and the curtain of the door of the court, which is by the tabernacle and by the altar' [Numb. iii, 26], as the tabernacle *was* ten cubits [Exod. xxvi, 16], so also the altar was ten cubits, and it is said 'the hangings of one side fifteen cubits' (Exod. xxvii, 14), and what is the meaning of what we are taught to say 'five cubits?' from the border of the altar upward; and what is the meaning of what we are taught to say 'and three cubits its height?' from the border of the circuit סובב upward." Rashi adds this comment, "from the border of the altar upward: upward from the altar its height was five cubits. From the border of the circuit upward: to the place of the horns [three cubits] and downward from it six cubits, and the height of the horn a cubit," which make up the ten. For the height of Solomon's "altar of brass" see 2 Chronicles iv, 1; for that of the altar to be built in the future, Ezekiel xliii, 14, 15.

[8] Middoth iii, 1. In Ezekiel xliii, 16, it is said "and the altar *shall be* twelve cubits long, twelve broad, square in the four squares thereof," and the Talmudists in reference to this passage say "it might be that it was only twelve by twelve, but when he said 'in the four squares thereof' it is understood that from the middle he measured twelve cubits to each side." (Menachoth 97 *b*; Zevachim 59 *b*; *cf.* Lightfoot 1131). This measurement refers to the upper part of the altar [אראיל, Ariel], and if correct, the lower part, or foundation, would of course be of the dimensions given in the text, namely thirty-two cubits by thirty-two.

[9] Menachoth 97 *a*. "It is taught there (Kelim xvii, 9), that Rabbi Meyer said all the cubits of the Sanctuary were medium cubits, except those of the golden altar, and the horn, and the circuit, and the foundation. Rabbi Judah said the cubit of the building was six handbreadths, and that of the vessels five." Rashi explains that the horn, circuit, and foundation are those of the altar of burnt-offering, and that the medium cubit was of six handbreadths. The question of the number of handbreadths in the various parts of the altar is then discussed at length. "The altar, how many *handbreadths* had it? Fifty-eight" (*ibid.* 98 *a*). The handbreadth was four fingerbreadths.

cubits and two handbreadths by thirty cubits and two handbreadths. It rose thirty handbreadths and receded five handbreadths, this was the circuit. It rose eighteen handbreadths, this was the place of the pile. Its breadth was now twenty-eight cubits and four handbreadths by twenty-eight cubits and four handbreadths.[10] It rose eighteen handbreadths, and there receded at the corner of the eighteen[11] *handbreadths* a square hollow structure at each of the four corners,[12] and the place of the horns was a cubit on this *side* and a cubit on that side all round, and also the place of the feet of the priests a cubit all round, so that the breadth of the place of the pile *was* twenty-four cubits and four handbreadths by twenty-four cubits and four handbreadths.

8. The height of each horn was five handbreadths, and the square of each horn a cubit by a cubit, and the four horns were hollow within,[13] and the height of the place of the pile was eighteen handbreadths, so that half the height of the altar from the end סוף of the circuit downward[14] was twenty-nine handbreadths.[15]

9. A red line encircled the middle of the altar (six handbreadths below the end of the circuit) to divide between the upper and the lower bloods,[16] and its height from the earth to the place of the pile was nine cubits less a handbreadth.[17]

[10] Menachoth 97 *b*; *cf.* Midd. iii, 1. The difference between the measurements given in the Gemara of Menachoth and those given in Middoth arises from the difference in the length of the cubits. The compilers of the Gamara appear to have held that the measurements of Middoth were not intended to be minutely accurate.

[11] From the circuit upwards to the place of the pile being three cubits, and all the cubits of the height except those of the foundation and horn being cubits of six handbreadths, it follows that from the circuit to the place of the pile was eighteen handbreadths.

[12] Zevachim 54 *b*.

[13] Zevachim 54 *b*.

[14] The circuit seems to have been reckoned as being one cubit of five handbreadths broad and one cubit of six handbreadths high, and hence the expression "from the end of the circuit downward."

[15] Menachoth 98 *a*. "The middle of the altar, how many *handbreadths* was it *high*? Twenty-nine. From the horns to the circuit, how many *handbreadths*? Twenty-three. How many less than to the middle of the altar? Six. Hence in Zevachim 65 *a*, and Menachoth 97 *b* and 98 *a* it is said that if the priest standing upon the circuit sprinkled the (lower) blood one cubit below his feet it was lawful.

[16] Middoth iii, 1; Menachoth 97 *b*. "*The blood* of a sin offering of a bird was sprinkled below, and that of a sin offering of a beast above. *The blood of* a burnt offering of a bird was sprinkled above, and that of a burnt offering of a beast below." (Kinim i, 1; *cf.* Zevach. ii, 1; vi, 2; and vii, 2.) In Zevachim 10 *b* and 53 *a*, it is said "the upper blood was put above the red line, the lower blood below the red line." Rabbi Eleazer, son of Rabbi Simeon, held that the blood of a sin offering of a beast might be put only on the body of the horn or corner, על גופה של קרן.

[17] The height of the altar from the ground to the pile was eight cubits of six

10. The foundation of the altar did not surround its four sides like the circuit, but the foundation extended along the whole of the north and west sides, and took up on the south one cubit, and on the east one cubit, and the south-eastern corner had no foundation.[18]

handbreadths each, and one cubit (the lower) of five handbreadths, so that it fell one handbreadth short of nine medium cubits. The tenth cubit was the horn.

[18] "And the foundation extended all along on the north and all along on the west *sides of the altar*, and took up on the south one cubit and on the east one cubit" (Midd. iii, 1). "And there was no foundation to the south-eastern corner. What was the reason? Rabbi Eleazer said because it was not in the portion of the ravener [*i.e.*, Benjamin: "Benjamin shall ravin as a wolf," Gen. xlix, 27], as said Rab Samuel son of Rab Isaak, the altar took up of the portion of Judah a cubit. Rabbi Levi son of Khama said, Rabbi Khama son of Rabbi Khaninah said, a strip [רצוע a strap] went out from the portion of Judah and entered the portion of Benjamin, and Benjamin the righteous was grieved thereat, every day desiring to take it, as is said "he fretted thereat every day" (Deut. xxxiii, 12; A.V. "*the Lord* shall cover him all the day long") wherefore Benjamin the righteous was judged worthy to become the dwelling-place of the Holy One, blessed be He, as is said "and he shall dwell between his shoulders" (Deut. xxxiii, 12). (Zevach. 53 *b*, 118 *b*; Yoma 12 *a*; Megillah 26 *a*.) "What was in the portion of Judah? The mountain of the house, the chambers, and the courts. What was in the portion of Benjamin? The porch, the Temple, and the Holy of Holies, and a strip went out," &c. (Yoma and Megillah, *loc. cit.*) Rashi explains (Zevach. 53 *b*) that the eastern part of the mountain of the house, including the entrance, is here meant, that the chambers were those in the *chel*, and that all the court of the women, and the twenty-two cubits of the place for the tread of the priests and of Israel were called the courts. "Thus," he continues, "the portion of Judah was on the east of the altar and by its side, and the altar took up of his portion a cubit on the east. With the exception of the cubit of the north-eastern corner, all *this side* was in the portion of Judah, which cubit was distant from the corner a cubit. And the strip went out at the south of the altar and entered the portion of Benjamin, for from the place of the tread *of the priests* and upward was the portion of Benjamin at the south of the altar, and the altar took up of it a cubit, and this was the cubit, שהיא כניסת, היסיד ראוי להיות בה, in which would have been the receding of the foundation had there been a foundation there, as Mar said (Midd. iii, 1), 'it ascended a cubit and receded a cubit, this was the foundation.'" Some confusion has arisen in reference to this curious point in consequence of the passage in Middoth iii, 1, ואוכל בדרם אמה, having been translated "but on the south it wanted one cubit, and on the east one cubit" (Lightfoot 1131), instead of "on the south it took up (or included) one cubit," &c. Rashi (Zevach. 54 *a*) says, "at the south-eastern corner it [*i.e.*, the foundation] extended along the eastern side a cubit and no more," and again, in allusion to the projection of the sloping ascent towards the foundation on the south, "towards the place where the receding *of the foundation* was adapted to be, but it was not there." Another note of Rashi's may be added here, "they made a kind of small projection opposite that (the south-eastern) corner to receive the blood of the burnt

11. At the south-western corner were two apertures, like two small nostrils, and these are what were called *sheteen*, שיתין, canals, and by them the bloods descended and became mixed at that corner in the cesspool, and went out to the Valley of Kedron.[19]

offerings of birds, that it might not fall upon the ground, and this was called קיר המזבח, the side of the altar (Levit. v, 9), but it was not called the foundation." This side of the altar is mentioned in Menachoth 98 *b* and Zevachim 65 *a* (*see* the note of Bartenora on Kinim i, 1). The space between horn and horn is called by the Talmudists כרכוב, *Kirkoob*. The Gemara, in Zevachim 62 *a*, enquires "what was the *Kirkoob* [A.V. "compass," Exod. xxvii, 5, xxxviii, 4]? Rabbi said it was the ornamented band, כיור. Rabbi Jose, son of Rabbi Judah, said it was the circuit, סובב . . . . What was the *Kirkoob?* Between horn and horn, the place of the path for the feet of the priests a cubit, because the priests were accustomed to go between horn and horn, therefore it is said the place of the path for the feet of the priests a cubit (Middoth iii, 1), and it is written "a brazen grate of network under the compass thereof beneath unto the midst of it" (Exod. xxxviii, 4). Rab Nachman bar Isaak said there were two, one for ornament, and one for the priests that they should not slip off." The gloss of Rashi explains that upon the top of the altar there was "a kind of deep channel, חרוץ עמוק, between the place of the pile and the edge of the altar all round and surrounding the place of the pile, and the breadth of the channel was two cubits, one cubit that part which was between the horns, and one cubit that which formed the path *for the priests*," and a few lines above this passage he says "and there was a slight eminence around it at the edge of the altar." In reference to the network of brass, the same commentator says "the grate of the network of brass which they put under the compass *of the altar* below as far as its middle surrounded the altar from its middle upward. It was clothed and as it were surrounded with a grating which was made with many holes, נקבים נקבים, like a sieve or fishing net, and it reached upward as far as to below the compass *Kirkoob*" . . . . . There were two surroundings to the altar which Moses made, one for ornament, and one for the priests that they should not slip off. *The latter extended* round the side, קיר, from the point where it was six cubits high [*i.e.*, the circuit] . . . . That for ornament was the "circuit," סובב, and the "ornamented band," כיוק, about which Rabbi and R. Jose bar Jehudah disputed, and below that circuit they put the grating, and its breadth reached downward to the middle of the altar, and it was a sign to distinguish between the upper and the lower bloods, as is said in Zevachim 53 *a* . . . . "And one for the priests that they should not slip off;" "and above on the top of the altar the depression surrounded it like a kind of depressed channel, a slight thing the edge of which might form a little parapet so that the priests should not slip." In reference to the statement that the priests could go between horn and horn he remarks, "the true path for the feet of the priests was inside the space between horn and horn, between the horn and the pile."

[19] Middoth iii, 2; *cf.* Yoma v, 6, and Meilah iii, 3. These holes were distinct from the two basins or funnels of silver or lime each with a perforated nozzle for the drink offerings. These latter appear to have been on the south-western part of the altar, since the priest went up by the sloping ascent and

12. Below in the pavement at that corner was a place a cubit by a cubit, and a slab of marble with a ring fixed to it, by which they went down to the canal and cleansed it.[20]

13. And a sloping ascent[21] was built to the south of the altar, its length thirty-two cubits by a breadth of sixteen cubits, and it took up upon the ground thirty cubits by the side of the altar, and there was an extension from it a cubit over the foundation, and a cubit over the circuit,[22] and a small space separated between the sloping ascent and the altar sufficient for the pieces of the sacrifices to be put upon the altar by throwing.[23] And the height of the sloping ascent was nine cubits less a sixth to opposite the pile.[24]

14. And two small inclines proceeded from it by which they went to the foundation and the circuit, and they were separated from the altar

turned to the left to reach them. The western one was for the water, the eastern one for the wine, and the latter had a larger hole than the other because the wine being thicker than the water took longer to run through. It is uncertain whether they were of silver or of lime blackened to look like silver. The libamina poured into these vessels ran down upon "the roof of the altar, and thence through a hole in the altar to the canals of the altar which were hollow and very deep" (Succah iv, 9, and 48 *b*; *cf.* Bartenora *in loc.*; and also Midd. iii, 2), where the hole in the altar is said to have been four cubits from its southern side, and the cavity beneath also to have extended thus far.

[20] Middoth iii, 3; *cf.* Meilah iii, 3. שיתין, *shitin*, seems to have been the upper and smaller canal, or receptacle, and אמה, *amah*, a larger and lower cavity, whence issued the sewer, a cubit square, through which the water of the court and the blood ran down to the Kidron valley (*cf.* R. Shemaiah in Middoth iii, 2). It does not appear they went into the אמה, or lower cavity, to cleanse it. This seems to have been always sufficiently flushed by the water of the court.

[21] "Thou shalt not go up by steps unto mine altar" (Exod. xx, 20): hence they said let a sloping ascent be made to the altar (Mechilta, מזבח אדמה). For the measurements of the sloping ascent see Midd. iii, 3; Zevach. 62 *b*.

[22] *Cf.* Midd. v, 2, where it is said "the sloping ascent and the altar measured sixty-two" cubits (upon the ground). The altar was thirty-two cubits in length, and the sloping ascent therefore only thirty at its base. The remaining two cubits were those of the part which projected forward towards the altar over the foundation and the circuit, and, as Rashi expresses it, "were swallowed up in the thirty-two cubits of the altar" (Zevach. 54 *a*, 62 *b*).

[23] It was required that the pieces of the burnt offerings should be thrown upon the altar, "as the blood was put upon the altar by throwing, זריקה, so also the flesh by throwing." (Zevach. 62 *b*; *cf.* note on the signification of the word זרק in "The Speaker's Commentary," introduction to Leviticus.) Hence a partition space was necessary between the ascent and the altar itself (Zevach. 62 *b*), across which the priest standing upon the ascent might throw the pieces (*cf.* Tamid vii, 3).

[24] *Vide supra*, 9. The sixth of a medium cubit was a handbreadth, and it was wanting in the height of the pile because the foundation was only a cubit of five handbreadths high.

by the thickness of a thread.[25] And there was a cavity, a cubit by a cubit, on the west of the sloping ascent, and it was called רבובה, *rebubah*, and in it they placed birds found unfit for the sin offering,[26] until they became decomposed, and were taken out to the place of burning.[27]

15. And there were two tables on the west of the sloping ascent, one of marble upon which they placed the pieces of the sacrifices, and one of silver, upon which they placed the vessels of service.[28]

16. When they built the altar they built it entirely solid, like a kind of pillar, and they made no cavity whatever in it, but brought perfect stones, large and small, and brought lime and pitch and lead, and moistened it, and poured it into a large frame of the measure of the altar, and built and raised it. And at the south-eastern corner they put a frame [גוף, *body*] of wood or stone, of the measure of the foundation, into the midst of the building, and likewise they put *a frame* into the middle of each horn until they finished the building, and the frames which were in the midst of the building took away so much as to leave the south-eastern corner without foundation, and the horns remained hollow.[29]

17. The four horns of the altar, and its foundation, and its square, were essential;[30] and every altar which had not horn, foundation, sloping ascent, and square, lo, that was unlawful, because these four were

[25] Zevach. 62 *b*. One of these inclines was on the east and led to the circuit, and the other on the west leading to the foundation. "A burnt offering of birds, how was it made? He went up by the sloping ascent, turned to the circuit and came to the south-eastern horn" (*ib.* vi, 5). Rashi upon this point says "that by which they went to the circuit proceeded from the eastern side of the sloping ascent to the right . . . . and that which led to the foundation proceeded from the west of the sloping ascent" (*ib.* 62 *b*). The slope of these small inclines was one in three, that of the large sloping ascent to the altar "one cubit in three cubits and a half and a fingerbreadth and a third of a fingerbreadth" (*ib.* 63 *a*, and the gloss). The large ascent was made with a gentler slope in order that the priests carrying the heavy pieces of the sacrifices might go up more easily. It was the custom to strew it with salt in rainy weather in order to render it less slippery (Grubin x, 14, and 104 *a*).

[26] Middoth iii, 3.

[27] "Rabbi Ishmael son of Rabbi Johanan ben Baruka said there was a hollow place there to the west of the sloping ascent, and it was called רבוכה, *rabuchah*, and there they threw the defiled of the sin offerings of birds until they became decomposed and were carried out to the place of burning" (Tosefta Korbanoth 7). Some read נבובה, *hollow*, for רבובה. The *rabubah* was in the ascent itself. The dimensions given were those of the opening; the size of the cavity is not known, but it is believed to have been large (*cf.* Aruch and Bartenora, and Tosef. Yom Tov to Midd. iii, 3).

[28] Shekalim vi, 4. The vessels were those ninety-three of silver and gold which were brought out of the chamber of vessels at the commencement of the morning sacrifice (*cf.* Tamid iii, 4, and Bartenora on the passage in Shekalim).

[29] Zevachim, 54 *a*, *b*.

[30] מעכבין, *delaying*, because the altar could not be considered as complete until they were made.

essential, but the measure of its length, and the measure of its breadth, and the measure of its height were not essential, and that which was not less than a cubit by a cubit and three cubits high, *was* like the measure of the place of the pile of the altar in the wilderness.[31]

18. An altar which had a flaw in its masonry, if the flaw in its masonry was a handbreadth, it was unlawful, if less than a handbreadth, lawful, provided that in the remainder there was no stone with a flaw in it.[32]

CHAPTER III.

1. The form of the candlestick is explained in the Law. There were four bowls, and two knops, and two flowers in the shaft of the candlestick, as it is said (Exodus xxv, 34) "and in the candlestick four bowls, made like unto almonds *with* their knops and their flowers." And there was yet a third flower joined to the shaft of the candlestick, as it is said (Numbers viii, 4) "unto the shaft thereof, unto the flowers thereof."

2. And it had three feet, and there were three other knops to the shaft of the candlestick, and from them the six branches issued, three on this side, and three on that side, and upon each of these branches were three bowls, and a knop and a flower, and all were shaped like almonds in their structure.

3. Thus all the bowls were twenty-two, and the flowers nine, and the knops eleven. And all of these delayed the one the other,[1] and if even one of the forty-two was wanting it delayed the whole.[2]

4. To what do these words refer? To the case in which they made the candlestick of gold; but when it was of other kinds of metal they did not make for it bowls, knops, and flowers. And the candlestick which is to come will be all of gold one talent with its lamps; and it will be all of beaten work from the mass. And of other metals they did not prescribe the weight.[3] And if it was hollow it was lawful.

5. And they never made it of old materials whether it was of gold or of other kinds of metal.[4]

6. The tongs and the snuff dishes and oil vessels were not included in the talent, for lo, it is said of the candlestick "pure gold" (Exod. xxv, 31), and again it says, and the tongs thereof, and the snuff dishes thereof "pure

[31] "Rab Khama bar Goreah said the גזירין pieces of wood which Moses made *for the pile* were a cubit long and a cubit broad," and this was regarded as the measure of the מערכה pile, or fire (Zevach. 62 *a*, *b*).

[32] Cholin 18 *a*. "How much constitutes a flaw in the altar? As much as will arrest the finger-nail. They repeat, how much constitutes a flaw in the altar? Rabbi Simeon ben Yochai said a handbreadth. R. Eleazer ben Yacob said as much as an olive. There is no contradiction, the one refers to the lime, the other to the stones."

[1] Menachoth 28 *a*, *b*.

[2] Tosefta Menachoth 6.

[3] Menachoth 28 *a*, *b*.

[4] Menachoth 28 *a*.

gold" (*ib.* 38); and it is not said its lamps pure gold, because the lamps were fixed to the candlestick and were included in the talent.[5]

7. The seven branches of the candlestick hindered the one the other, and its seven lamps hindered the one the other, whether[6] they were of gold or of another kind of metal. And all the lamps were fixed to the branches.[7]

8. All the six lamps which were fixed to the six branches which issued from the candlestick had their faces towards the middle lamp, which *was* upon the shaft of the candlestick, and that middle lamp had its face towards כנגד the Holy of Holies, and it is that which was called the western lamp.[8]

9. The bowls resembled Alexandrian cups, of which the mouth is broad and the bottom narrow. And the knops *were* like apples of Kirjathaim,[9] which are of little length, like an egg broad at its two ends;[10] and the flowers, like the flowers of pillars, which are like a kind of saucer with the lips turned outwards.[11]

10. The height of the candlestick was eighteen handbreadths. The legs and the flower three handbreadths, and two handbreadths plain, and a handbreadth in which were a bowl, a knop, and a flower, and two handbreadths plain, and a handbreadth a knop, and two branches issued from it one on each side and were extended upwards to opposite the summit of the candlestick, and a handbreadth plain, and a handbreadth a knop, and two branches issued from it one on each side and were extended upwards to opposite the summit of the candlestick, and a handbreadth plain, and a handbreadth a knop, and two branches issued from it one on each side and were extended upwards to opposite the summit of the candlestick, and two handbreadths plain. There remained three handbreadths, in which were three bowls, a knop, and a flower.[12]

11. And there was a stone in front of the candlestick and in it three steps, upon which the priest stood and trimmed the lamps, and he put upon it the vessel of oil and its tongs and the snuff dishes at the time of the trimming.[13]

[5] Menachoth 88 *b*. R. Nehemiah was of opinion that the lamps were not included in the talent.

[6] Menachoth iii, 7.

[7] "At the top of each branch was a lamp like a cup and there they put the oil and the wicks" (Rashi in Menach. 28 *a*).

[8] Menaduth 98 *b*, and the comment of Rashi.

[9] Joshua xiii, 19, &c. Cariathaim is mentioned by Eusebius as a village near Medoba and Baris.

[10] For the signification of the word כדין, *cf.* a passage in Avodah Sarah 40 *a*, and the note of Rashi; also Aruch and Buxtorf, *s.v.*

[11] Menachoth 28 *b*, and the comment of Rashi. The remark that the flowers were like little dishes or saucers seems to be Maimonides' own.

[12] Menachoth 28 *b*.

[13] Tamid iii, 9. The Mishna says that he left the oil vessel, כוז, on this stone, but does not mention his putting the tongs and snuff-dishes upon it.

12. The table of *shewbread* was twelve handbreadths long and six handbreadths broad.[14] It was placed with its length parallel to the length of the house, and its breadth to the breadth of the house, and so all the other "vessels" which were in the Sanctuary, their length was parallel to the length of the house, and their breadth to the breadth of the house, except the arc, the length of which was parallel to the breadth of the house.[15] And also the lamps of the candlestick *were* opposite to the breadth of the house between the north and the south.[16]

13. There were for the table four golden rods cleft at their tops, against which rested the two piles of shewbread, two for each pile, and these are what are mentioned in the Law as "the covers thereof," קשותיו.

14. And it had twenty-eight golden reeds, each one of them like the half of a hollow reed, fourteen for the one pile and fourteen for the other pile, and these are what are called the "bowls thereof," מנקיותיו.

15. And the two censers in which they put the incense upon the table by the side of the piles are what were called "the spoons thereof," כפותיו. And the moulds in which they made the shewbread are what were called "the dishes thereof," קעדותיו.[17] The fourteen reeds were thus arranged: the first cake was placed upon the table itself, and between the first and the second were put three reeds, and also between each two cakes three reeds, but between the sixth and fifth, two reeds

[14] Menach. xi, 5. "The table was ten handbreadths long and five broad. . . . . Rabbi Meyer said the table was twelve *handbreadths* long and six broad." In the first statement the cubit is taken to be a small one of five handbreadths, in the second a medium cubit of six handbreadths. The decision appears to have been according to R. Meyer's opinion.

[15] Menach. xi, 6 and 98 *a*.

[16] The position of the candlestick is discussed at length in Menachoth, 98 *b*. Maimonides is of opinion that it stood across the house, three branches being towards the north and three towards the south, and this agrees with the statement that whilst the lamps which were upon the branches looked towards the central lamp, the latter looked towards the Holy of Holies, and hence was called the western lamp (*vide supra*). Rashi (in Menach. 98 *b*) says the candlestick "was always placed north and south, and therefore only one *of its lamps* looked towards the west, and that was the middle one, the mouth of whose wick was towards the west, and the rest had their wicks looking towards the middle lamp, the three on the northern side looking towards the south, and the three on the southern side looking towards the north." Yet a passage in Tamid iii, 9, which alludes to the "eastern lamps," gives support to the opinion held by some of the Rabbis that the candlestick stood east and west, and that the western lamp was the outer lamp on the western side, which position, moreover, is in accordance with the rule that the length of the "vessels" was parallel to the length of the house.

[17] Menach. xi, 6, gives the number of the rods and reeds. The Gemara (97 *a*) adds "'the dishes thereof,' these were the moulds; 'the spoons thereof,' these were the censers; 'the covers thereof,' these were the rods; and 'the bowls thereof,' these were the reeds 'to cover withal,' because they covered the bread

only, because there was no other above the sixth. Thus there were fourteen reeds to each pile.[18]

16. And there were two tables within the porch at the door of the house. One of marble upon which they placed the shewbread when they took it in, and one of gold upon which they placed the bread when they carried it out, because they rose higher and higher with holy things, and went not lower and lower.[19]

17. The altar of incense was a cubit square,[20] and it stood in the holy place (היכל), equidistant from the north and the south *sides* and drawn from between the table and the candlestick towards the outside[21] (*i.e.*, towards the door), and the three were placed in the third part of the holy place and inward, opposite to the veil which divided between the holy place and the most holy.[22]

18. There were twelve spouts to the laver in order that all the priests occupied with the continual service might sanctify [*i.e.*, wash] themselves at the same time. And they made a machine for it in which there might constantly be water. And it was profane [not hallowed] in order that the water that was in it might not become unlawful by remaining all night, because the laver was one of the sacred vessels and sanctified *whatever was placed in it*, and everything that became sanctified in a sacred vessel if it remained all night became unlawful.[23]

with them." The following are the names given to these several appurtenances of the table :—

Hebrew.	A.V.	Talmud.	Signification of Talmud word.	LXX.	Vulgate.
קערה	dish	דפוס	mould	τρυβλιον	acetabulum
כף	spoon	בזיך	censer / acerra	θυισκη	phiala
קשה	cover	סניף	furcula	σπονδιον	thuribulum
מנקית	bowl	קנה	reed	κυαθος	cyathus

[18] Menachoth 98 *a*, where it is said that the lower cakes were placed, מעל שהרו של שולחן, upon the middle of the table, or perhaps upon the clean surface of the table, the bare table (Lev. xxiv, 6).

[19] Menachoth xi, 7.

[20] Exodus xxx, 2.

[21] Joma 33 *b*. "The table was on the north, drawn two cubits and a half from the wall, and the candlestick on the south, drawn two cubits and a half from the wall. The altar was between and stood in the middle drawn towards the outside," which Rashi explains to mean towards the east, where was the door of the temple.

[22] *Cf.* Tosefta Yoma, 2.

[23] Yoma iii, x, 37 *a*. "Ben Katin made twelve spouts to the laver, there

having been only two *before*. And also he made a machine for the laver in order that its water might not become unlawful by remaining all night." Ben Katin was a high priest. The Gemara explains the reasons why twelve spouts were required; also that the "machine" was a wheel by means of which the laver [?] was "immersed" in the cistern (*cf.* Rashi). The structure and use of this famous machine are not clearly understood. That by its means the laver itself could have been immersed in a מקוה gathering of waters or spring [Maim., Biath Hammikdash v, 14] and raised again by one unassisted priest [Tamid i, 4] will appear impossible, if we remember how large and heavy the laver must have been for twelve priests to wash at it at one time. Maimonides in his comment on the Mishna hazards the suggestion that the machine was a vessel surrounding the laver, and that the water remained constantly in it, and was removed into the laver as required. Not improbably it was a bucket attached to a rope or chain running over a wheel by means of which the water was raised, and which was let down into the "cistern or spring" at night, its water being thus "joined with the water of the cistern" (Rashi, Bartinora, Tosefoth Yom Tov). That it was a clumsy instrument appears from the fact that the noise it made could be heard at Jericho! [Tamid iii, 8.] The chief interest which attaches to this curious question arises from the circumstance that all the Rabbinical commentators appear to assume that there was a cistern, pool, or fountain under the laver, a point not to be forgotten in any attempt to determine the site of the Sanctuary.

It may be mentioned here that the Talmud teaches that there was a canal which brought water to the Sanctuary from the fountain of Etam (Jerus. Yoma perek iii, fol. 41, *a* 1; Maim., Biath Hammikdash v, 15). This water went in the second temple to the bathroom of the high priest on the Day of Atonement, which was over the water-gate [Yoma 31 *a*]; in the first Temple it supplied the molten sea. עין עיטם, the fountain of Etam, is said to have been twenty-three cubits higher than the floor of the court, and hence it is inferred that the water might easily be forced to the top of the gate which was only twenty cubits high, [Yoma, *loc. cit.*] Rashi thinks Etam may have been the same as Nephtoah [Joshua xvi, 9.] The Talmudic doctors held a curious theory respecting the water of Etam, which may be best given in the words of Rashi, "The slopes of Babylon returned the waters which were poured upon them to the fountain of Etam, which was a high place in the land of Israel, and this fountain brought water to the bathroom of the high priest on the Day of Atonement, which was situated on the wall of the court over the water-gate. As is said in the order for the Day of Atonement (Yoma 31 *a*), 'the fountain of Etam was twenty-three cubits higher than the floor of the court.' And how did they return? There are by the Euphrates canals and stairs, סילונות וסולמות, below the surface (of the sea), and by the way of these stairs [probably there is here an error, סולמות being put for סילונות] the waters returned to the land of Israel. And they returned and welled up in the fountains. And the fishes returned by way of those stairs, which were easier for their ascent than the way of the Euphrates itself" (Shabbath 145 *b*). The curious may follow this subject in the Gamara, Tosefoth and gloss of Rashi in Bechoroth 44 *b* and 55 *a*. "R. Judah said that Rab said all the rivers in the world are lower than the three rivers (Hiddekel, Pison, and Gihon), and the three rivers are lower than the Euphrates."

CHAPTER IV.

1. THERE was in the Holy of Holies, on its western side, a stone upon which the ark was placed[1] and in it the pot of manna and Aaron's rod.

[1] Yoma v, 2. "After the ark was removed there was a stone there" (in the Holy of Holies) "from the days of the first prophets and it was called *Sheteyah*, '*foundation*.' Its height from the earth was three fingerbreadths." The Gamara adds, "it is taught that from it the world was founded, which is as much as to say from Zion the world was created. According to the Bareitha, R. Eleazer said the world was created from its middle, as is said "When the dust groweth into hardness, and the clods cleave fast together" (Job xxxviii, 38). R. Joshua said the world was created from the sides, as is said, "for he saith to the snow, be thou on the earth; likewise to the small rain, and to the great rain of his strength" (Job xxxvii, 6). R. Isaak (Niphka) said the Holy One, blessed be He, threw a stone into the sea, *and* from it was the world created, as it is said "whereupon are the foundations thereof fastened, or who laid the corner stone thereof?" (Job xxxviii, 6), and the wise men said it was created from Zion, as it is said, "A psalm of Asaph. The Mighty God, even the Lord," and says "from Zion the perfection of beauty" (Psalm l, 1); from it was perfected the beauty of the world. The Bareitha teaches that R. Eleazer the great said "these are the generations of the heavens and of the earth when they were created, in the day that the Lord God made the earth and the heavens" (Gen. ii, 4). The generations of the heavens were created from the heavens; the generations of the earth were created from the earth. And the wise men said both the one and the other were created from Zion, as it is said "A psalm of Asaph. The mighty God, *even* the Lord hath spoken, and called the earth from the rising of the sun unto the going down thereof," and it says "out of Zion, the perfection of beauty, God hath shined," from it was perfected the beauty of the world (Yoma 54 *b*). Such were the Rabbinical opinions respecting this famous stone, which, according to Rabbi Schwarz (das heilige Laud 216-7), is identical with the Sakhrah or sacred rock at present venerated by Mahommedans under the Dome of the Rock.

In the Toldoth Jesu the Aven Hashsheteyah, "stone of foundation," is affirmed to be the stone which the patriarch Jacob anointed with oil. Upon it was said to be written the letters of the *the nomen tetragrammaton*, the ineffable name of God, and lest anyone should learn the letters of this name and become possessed of the wondrous powers which that knowledge conferred, two dogs were placed near the Sanctuary, which, if anyone had succeeded in learning the letters, barked so fiercely at him as he was passing out as to cause him immediately to forget them. It is said that Jesus having entered, learned the letters, wrote them upon parchment, and placed the parchment in an incision which he made in his thigh, the skin closing over it on the name being pronounced, and having escaped the canine guardians of the place, thus became possessed of the supernatural powers which he afterwards manifested (Buxtorf Lex. Talmud, 2541). In Wagenseil's edition of the Toldoth Jesu the stone is said to have been found by King David when digging the foundation of the temple (*cf.* Maccoth 11 *a*) "over the mouth of the abyss," and that he brought it up and placed it

And when Solomon built the house, knowing that its end was to be destroyed, he built in it a place in which to hide the ark underneath in secret places, deep and tortuous. And Josiah the king commanded them to hide *the ark* in the place which Solomon built, as it is said "and he said unto the Levites that taught all Israel, which were holy unto the Lord, put the holy ark in the house which Solomon the son of David, king of Israel, did build; it *shall* not *be* a burden upon *your* shoulders; serve now the Lord your God," &c. (2 Chron. xxxv, 3). And there were hidden with it the rod of Aaron, and the pot of manna, and the anointing oil, and all these were not restored in the second house.[2] And also the Urim and Thummim, which were in the second house, did not respond by the Holy Spirit, nor did they enquire of them, as it is said, "till there stood up a priest with Urim and with Thummim" (Ezra ii, 63), and they only made them in order to complete the eight garments of the High Priest, in order that he might not be מחוסר בגדים, wanting in the proper number of garments.[3]

in the Holy of Holies. The Targum of Jonathan represents *the Name* as being engraved on the stone of foundation with which "the Lord of the world covered the mouth of the great abyss" (Exod. xxxviii, 30). When Jonah was in the belly of the fish he was carried under the Temple of the Lord, and saw the stone of foundation fixed to the abysses, קבעק בתהומות (Tanchuma 53, *b* 1).

There is a tradition that the prophet Jeremiah took this stone with him to Ireland, that it was subsequently conveyed to Scotland by an Irish prince, and eventually removed by King Edward III to Westminster Abbey, since which time all the kings and queens of England down to Victoria have been crowned upon it.

Nearly all modern Rabbis appear to hold the opinion of R. Schwarz respecting this stone of foundation. It seems strange that it should have been confounded with Zoheleth, yet in the Jewish manual arba' taanoth (tisha b'av) this identity is suggested.

By the first prophets, Samuel, David, and Solomon are here intended (Rashi, Sotah 58 *b*).

[2] In Yoma 52 *b*, Keritoth 5 *b*, Horioth 12 *a*, it is said "with the ark there were hidden the pot of manna, the vessel of anointing oil, the rod of Aaron, its almonds and blossoms, and the coffer which the Philistines sent as a gift to the God of Israel" (1 Sam. vi, 8). For the place in which the ark was hidden, see 2 Chronicles xxxv, 3; Shekalim Yirushalmi, ch. vi, page 10, and Rashi on Keritoth, 5 *b*. All the Rabbinical writers held that there were chambers or hollow spaces under the whole Sanctuary, and it is doubtless some of these to which Maimonides here refers. The exact position of the hiding-place of the ark was supposed to be near the chamber of wood in the court of the women (Shekalim vi, 2).

[3] In Yoma, 21 *b*, it is said "in five things the second house differed from the first house, viz., there was in it neither ark, nor atonement, nor cherubim of fire, nor the Shekinah, nor Holy Spirit, nor Urim and Thummim." Rashi held that the ark, the atonement and the cherubim were one. The opinion that there were Urim and Thummim in the second house, in order that the number of the

2. In the first house there was a wall, a cubit thick, dividing between the holy *place* and the most holy,[4] and when they built the second house they doubted whether the thickness of the wall was taken from the measure of the holy *place*, or from the measure of the most holy, and therefore they made the length, עביך, of the most holy *place*, exactly twenty cubits, and the holy *place*, exactly forty cubits, and they put an additional cubit between the holy *place*, and the most holy.[5] And they did not build a wall in the second house, but made two vails, one on the side of the most holy *place*, and one on the side of the holy *place*, and betweeen them *was* a cubit corresponding to the thickness of the wall which was there in the first *house*. But in the first Sanctuary there was one[6] vail, as is said, "and the vail shall divide unto you," &c. (Exodus xxvi, 33).

3. The temple[7] which the children of the captivity built, was a hundred cubits by a height of a hundred. And thus was the measure of its height. They built to a height of six cubits closed and solid, like a kind of foundation to it,[8] and the height of the wall of the house forty cubits, and the height of the ornamented beam, ביור, *kioor* or *ceiling*, which was by the roof, a cubit, and above it a height of two cubits vacant, in which the

garments of the high priest might not be incomplete, but that they did not enquire of them, is derived from the Tosefoth Yoma, 21 *b*. Rabbi Abraham ben David questions whether Urim and Thummim could be numbered with the garments [note on Beth Habbech], nor does Maimonides himself in his enumeration [in Kle Hammikdash viii, 2] of the high priest's garments mention the Urim and Thummim.

[4] Yoma 51 *b*, and the comment of Rashi; *cf.* Baba Battira, 3 *a*.

[5] Jerus. Kelaim, ch. viii.

[6] Yoma v, 1; *cf.* Gamara and Tosefoth 51 *b*.

[7] היכל. The whole of this section is from Middoth iv, 6.

[8] Maimonides elsewhere ["Commentary on the Mishnas," Midd. *in loc.*] says that this foundation was built בנוף הקרקע, in the body of the earth, and that the walls were placed upon it. The "Tafaereth Israel" ("Mishmaoth Rabbi, Lipsitz. Warsaw," 1864) has this passage, "it was the foundation, and was six cubits high, because the mountain rose and fell, and the temple and the porch were built upon the top of the mountain upon the level ground, and the walls stood near the place where the mountain began to descend, and thus in order to give to the house a firm foundation, לבלי ימוט, without tottering, they built a foundation of hewn stones around the above mentioned level ground six cubits high; and inasmuch as that foundation was joined [אטום, closed] on the inner side with the ground, so that the inside of the porch and temple was not seen at all, it was called אימם, *closed*," and this in accordance with the remark of Rabbi Shemaiah, that "the threshold of the house was raised six cubits above the ground by closed masonry, solid wall, and it is necessary to say that there were steps at the porch by which they went up to the threshold, and for those going down from the temple to descend from the threshold." [Middoth, *loc. cit.*] Had these six cubits been "in the body of the earth," they could not have been reckoned to the height of the building.

dropping might be collected, and this is what was called בית דילפא, *domus stillicidii*, place of dropping. And the thickness of the rafters above the place of dropping a cubit, and the plaster a cubit.[9] And an upper chamber was built above it, the wall of which *was* forty cubits high, and by its roof a cubit, the height of the ornamented beam, and two cubits the height of the place of dropping, and a cubit the rafters, and a cubit the plaster, and the height of the battlement three cubits ; and a plate of iron like a sword, a cubit high, was above the battlement, all round in order that the birds should not rest upon it, and this is what was called the scarecrow. Thus the whole was a hundred cubits.

4. From the west to the east *was* a hundred cubits, and this was their arrangement : four walls, one in front of the other, and between them three vacant places ; between the western wall, and the wall in front of it five cubits, and between the second and third wall six cubits, and between the third and fourth wall six cubits ; and these were the measurements of the thickness of the wall with the vacant place, which was between two walls. And the length of the Holy of Holies twenty cubits, and between the two veils, which divided between it and the holy place, a cubit, and the length of the holy place, forty cubits, and the thickness of the eastern wall in which was the gate six cubits, and the porch eleven cubits, and

[9] "*Kioor* is engraved work (2 Chron. ii, 13 ; Zach. iii, 9), and the engraved ornaments which architects make in lime or stone, and sometimes it is said *Kioor v'tzioor*, *i.e.*, engraved and painted. דלף *dropping*, is the dripping of water from the roof, and it was the custom to make for buildings two roofs, one above the other, and to leave a small place between the two, and to call this hollow space בית הדילפה, *domus stillicidii*, from the word דלף, *to drop*, so that if the upper roof should drip, the water would remain in that space" [Maim. Comment on Mishnas, Midd. iv, 6]. "*Kioor*, the lower rafter of the roof . . . . and because it was covered with gold and painted with beautiful pictures it was called *Kioor* . . . . the upper rafters, which rested upon the lower rafter, was two cubits thick, and these were called בית דלפה, *domus stillicidii*" [Bartenora on Midd., *in loc.*] A modern gloss on this passage of the Beth Habbech says "it is a custom in Turkey in building princes' houses to make a roof of planks painted with beautiful pictures. It is called *tavan*, and above it the principal roof which is exposed to the sky, and a space between the *tavan* and that principal roof, and if at any time the principal roof should leak, the dropping would descend in that space upon the top of the *tavan*, and on this account it was called *domus stillicidii*."

The structure of the present roof of the outer corridor of the Dome of the Rock at Jerusalem may illustrate that of the ancient Temple.

"The מעזיבה (*or plaster*) was the lime and stones which were placed upon the roof" [Maim. on Midd., *in loc.*] Sometimes reeds and bushes were placed over the rafters, and the cement laid on above. [Baba Metyia (as quoted by Aruch) 117 *a* ; *cf. ib.* 116 *b*, in Mishna, and note of Rashi ; also Baba Bathri 20 *b* in Mishna.] It was the custom to roll this plaster with a cylindrical stone called *mágilah*, מעגילה [Macoth ii, 1]. Such roofs are common in Palestine at the present day.

the thickness of the wall of the porch five cubits, altogether a hundred cubits.[10]

5. From north to south a hundred cubits. The thickness of the wall of the porch five cubits, and from the wall of the porch to the wall of the holy place ten cubits, and the walls of the holy place six walls, one in front of the other, and between them five vacant places. Between the outer wall and the second five cubits, and between the second and third three cubits, and five between the third and fourth, and between the fourth and fifth, six, and between the fifth and the inner wall six, in all forty cubits on this side, and forty cubits on the side which was opposite to it, and the breadth of the house within, twenty cubits. Lo, there were a hundred cubits.[11]

6. The *pishpaesh*, פישפש, is a little door. There were two little doors to the temple by the sides of the great gate, which was in the middle, one on the north, and one on the south. By that on the south no man ever entered, and in reference to this it was explained by Ezekial (xliv, 2) "this gate shall be shut, it shall not be opened." But by that on the north they entered, and going between the two walls until he reached the place where was the opening into the holy place on his left, he went into the interior of the temple היכל, and proceeded as far as the great gate and opened it.[12]

7. The breadth of the great gate was ten cubits, and its height twenty cubits. And it had four doors, two within and two without, the outer ones opened into the doorway to cover the thickness of the wall, and the inner ones opened into the house, to cover the space behind the doors.[13]

8. The doorway of the porch was forty cubits high, and twenty broad, and there were no gates to it.[14] And there were five carved oaken beams over the doorway above. The lower one extended beyond the doorway, a cubit on each side, and each one of the five extended beyond that below it, a cubit on each side, so that the upper one *measured* thirty cubits, and there was a row of stones between every two *beams*.[15]

[10] These measurements are essentially the same as those given in Middoth iv, 7, but by reckoning the thickness of the walls west of the Holy of Holies as spaces, and each face of a wall as a distinct wall, obscurity has been occasioned.

[11] Middoth iv, 7. See the last note. The account in Middoth gives only the breadth of the house behind the porch. According to Maimonides the room for the slaughtering instruments measured ten cubits by eleven, internal measurement.

[12] Middoth iv, 2; Tamid iii, 7. In the Mishna it is said that the priest, after opening the little door, entered the chamber and thence passed into the temple. Maimonides does not agree with Rabbi Judah's opinion that the priest went in the thickness of the wall until he found himself standing between the two gates.

[13] Middoth iv, 1.

[14] Tosefoth Avodah Zarah 53 *a*. "The porch was open along its whole eastern side."

[15] Middoth iii, 7.

9. The temple הֵיכָל, was built broad in front and narrow behind, like a lion.[16] And there were chambers surrounding the whole house round about, besides the wall of the gallery. The lower chamber *was* five *cubits broad*, and the roofing, רוֹבַד, above it six, and the middle chamber six, and the roofing above it seven, and the uppermost seven, as is said "the nethermost chamber" &c. (1 Kings vi, 6), and thus the three chambers surrounded the house on its three sides.[17] And also around the walls of the porch from below upwards there were thus: a space, חֵלֶק, of one cubit, and a standing place, רִיבַד, three cubits, and a space of one cubit, and a standing place three cubits to the upper part. And the standing places, רוּבִים, surrounded the walls, the breadth of each standing place was three cubits upwards, and between each two standing places a cubit, and the upper standing place was four cubits broad.[18]

[16] Middoth iv, 7.

[17] Middoth iv, 3, 4. רוֹבֵד is a floor or pavement, and the word is used here because the roof of one chamber formed the flooring of the chamber above.

[18] Middoth iii, 6. The following is Lightfoot's rendering of this passage:—"Round about the walls of the porch from below upward they were thus: one cubit plain, and then a half pace of three cubits, one cubit plain (or an ordinary rising of steps) and then another half pace of three cubits, and so up, so that the half paces did go about the walls of the porch."

Also by the Jewish commentators the passage in Middoth which Maimonides here paraphrases is taken to refer to the steps and standing places which led up to the porch. But Maimonides understood it to refer not to the steps, but to a kind of ornament of the wall itself consisting of a projection three cubits in perpendicular measurement repeated at intervals of a cubit, the uppermost projection measuring four cubits. In his comments upon the Mishnas (Midd. iii, 6) he says "the wall of the porch was built according to this arrangement, which was that one cubit in the height of the wall its *whole* length was plain and even like the rest of the walls, afterwards the building or masonry projected from the wall like a balcony, כְּצוֹצְרָה, three cubits high, afterwards, at a distance of one cubit, it projected again, and this is what was called *robad*, רוֹבַד, and thus the structure of the whole was a cubit, and a *robad* three cubits," &c.

If the steps of the porch are referred to there could not have been more than three cubits between the lowest step and the foundation of the altar. According to some opinions there was only one; and it seems hardly possible that a bullock could have stood and been slaughtered by the priest in so small a space [Yoma iii, 8] without inconvenience. In the same narrow space, also, the whole company of officiating priests must have stood whilst one of their number sounded the *magrefah*; an instrument so large and powerful that people in the city could not hear one another speak for the noise it made, and whose "voice" could be heard at Jericho!

The laver, moreover, was between the porch and the altar, and it must have been very small if the space between the altar and steps was only three cubits, unless, indeed, as has been suggested ["Tafaereth Israel Mishnas, Warsaw, 1864"], it was placed upon the steps themselves. Objections to this latter view are, 1, that no mention is made of the priests going up the steps to reach the laver, and, 2, that the account of the manner in which the priests performing the

10. All these vacant places, which were between the walls, are what were called תאם, *chambers* (Ezekiel xl, 7, 10). The chambers surrounding the Sanctuary were five on the north, five on the south, and three on the west. And there were three stories, story above story, so that there were fifteen chambers on the south, five above five, and five above them, and also on the north fifteen. And on the west were eight chambers, three above three, and two above them, in one story. Altogether *there were* thirty-eight chambers.[19]

11. There were three openings to each chamber, one to the chamber on the right, and one to the chamber on the left, and one to the chamber above. And at the north-eastern corner in the chamber, which was in the middle story, were five openings, one to the chamber on the right, and one to the chamber which was above it, and one to the gallery, and one to the chamber in which was the little door, and one to the temple (היכל).[20]

12. And a gallery (or winding staircase), מסיבה, ascended from the north-eastern corner to the north-western corner by which they went up to the roofs of the chambers. Going up by the gallery with his face to the west, he traversed the whole northern side until he reached the west; having reached the west he turned his face to the south, and passed along the whole western side until he reached the south; having reached the south, he turned his face to the east and went along on the south, till he reached the door of the upper chamber, for the door of the upper chamber opened on the south.[21]

13. And at the door of the upper chamber were two beams of cedar wood by which they went up to the roof of the upper chamber. And pointed pieces[22] divided in the upper chamber between the roof the holy place, and the roof of the Holy of Holies. And there were in the upper chamber openings[23] into the Holy of Holies, by which they let down the workmen in boxes that they might not feast their eyes upon the Holy of Holies. And once a year, at every Passover, they whitened the temple (ההיכל).[24]

(*To be continued.*)

daily service ascended the steps to the porch (Tamid vi, 1) seems to imply that they had not before ascended any of them, החלי עולים, "they *began* to go up."

[19] Middoth iv, 3.

[20] Middoth iv, 3. Maimonides and some more modern commentators regard the lower chamber as having been below the level of the floor of the holy place, and bounded on the outer side by the foundation.

[21] Middoth iv, 5. It appears that the upper story did not extend farther west than the western wall of the Holy of Holies. The roofs of the western, as well as those of the northern chambers, were open to the sky.

[22] Middoth iv, 5. רשי פשפשם were wooden projections from the northern and southern walls, of the upper story [*cf.* Bartenora on Midd. i, 6, and Tataereth Israel to Midd. iv, 5], or as Maimonides thought from the floor [Comment. on Mishnas, Midd. iv, 5].

[23] לולין = ארובות, *fenestra* [Bartenora, *cf.* Oholoth x, 1].

[24] Middoth iii, 4.

THE "CITY OF DAVID" ONLY A *PART* OF JERUSALEM.

SIR,—Captain Conder has in several places argued against the identification of the modern Ophel with the old "City of David" on account of the inadequacy of its area for "a capital like Jerusalem" (*Quarterly Statement*, 1884, p. 23), "the capital of Syria in David's time" (*Quarterly Statement*, 1884, p. 22), &c., thus making it appear that the terms "City of David" and "Jerusalem" refer to the same area, and are interchangeable.

He himself, however, supplies the answer to this assumption, when, on p. 28, *Quarterly Statement*, 1884, he tells us that Solomon's palace was on Ophel, and "outside the City of David." It is true he says also (p. 28) that Ophel was "only afterwards occupied," it being, according to p. 22, "in the time of Manasseh, when Ophel was included," &c., but this can scarcely be reconciled with the former statement, unless we are to understand that Solomon's palace was outside the *walls* of the "capital of Syria."

The following passages from the Bible, however (some of which I have not yet seen cited in this controversy), prove clearly, I think, that the Scriptural "City of David" was not the whole, but only *part*, of the "capital of Syria," even in Solomon's time.

From 2 Samuel vi, 12, we learn that David brought up the Ark of God from the house of Obed-Edom *into* the *City of David* with gladness. (See also 1 Chron. xv, 29.)

Then after the Temple was built, we find from the almost identical language of 1 Kings viii, 1, and 2 Chronicles v, 6, that "Solomon assembled the elders of Israel . . . to bring up the Ark of the Covenant of the Lord, *out of* the *City of David* which is Zion."

It is quite clear, therefore, that the *Temple* was not *in* the "City of David."

Again, we learn from 1 Kings iii, 1, that Solomon brought Pharaoh's daughter *into the City of David* temporarily, "until he had made an end of building his *own house* and the house of the Lord," &c. Upon the completion of these "she came up *out of the City of David* into her house that Solomon had built for her" (1 Kings ix, 24). This is corroborated by 2 Chronicles viii, 11, which gives us also the reason for her sojourn in the "house [city, Septuagint] of David, King of Israel," not being permanent. These latter show that the "house for Pharaoh's daughter" also was not *in* the "City of David."

Clearly then the "City of David" was not the *whole* of Jerusalem.

The above passages, I venture to think, give greater force to those cited by Rev. W. F. Birch, on page 80, line 3, 1884, *Quarterly Statement*, 2 Kings xiv, 20, and page 198, "No. (2)," 2 Chronicles xxviii, 27, in the latter of which he interprets "in the city of Jerusalem" as meaning "in the City (of David) at Jerusalem." This is further borne out by 2 Kings viii, 24, which tells us that Joram was buried "in the *City of David*," while 2 Chronicles xxi, 20, informs us that "they buried him in the City of David, but *not* in the *sepulchres of the kings*;" and the same is said of Joash, in 2 Chronicles xxiv,

25. Are we to understand that there were *three* royal cemeteries? This follows from the above passages, if the sepulchres in which David, Solomon, and Rehoboam were interred, were *not* on Ophel, where Captain Conder allows it to be probable that the Garden of Uzza was situated, in which were buried the later kings who are not said to have been laid to rest "in the City of David."

If there were only *two* royal sepulchres, then we have *three* passages certainly (and perhaps *four*, if we include the case of Asa, 2 Chron. xvi, 13, 14), in which it is distinctly stated of monarchs who were *not* buried in *the sepulchres of the kings*, that they *were* buried *in the City of David*.

How then can there be any room for doubt, that *if* the later kings were buried on Ophel, the former were so too?

Yours truly,

H. B. S. W.

P.S.—Regarding C. R. C.'s objection to the force of the extract from the Tosiphta ('84, p. 197), may I point out that its bearing on this subject is not weakened by the supposition that Rabbi Akiba was "constructing a theory merely?" Supposing this were the case, he would surely not have "invented" a passage, whose length would have made it clearly impossible of belief if the City of David he knew had been where C. R. C. wishes to place it!

His mention in this connection, of the Brook Kidron, shows sufficiently that the Royal Tomb of which he was speaking (and consequently the City of David, which enclosed it) was in *close proximity* to the Kidron, so that a passage from the tomb to the brook was neither incredible nor unlikely.

VERIFICATION OF REFERENCES.

City of David, *Quarterly Statement*, p. 173, 1884.—Where has Canon Birch written anything that will entitle us to say that he has been "supposing that the City of David stretched across a deep valley?"

Dolmen in Bashan, *Quarterly Statement*, p. 241, 1884.—Where is the passage to be found in which this is described as "*a large* example?"

I cannot find it so spoken of by Mr. Oliphant, and it is certainly desirable that the misleading passage should be pointed out, and the blame for its error rightly attributed.

H. B. S. W.

December 10*th*, 1884.

QUERIES.

The Emek of the dead bodies, &c., Quarterly Statement, 1883, p. 217.—The statement here made that "Jeremiah terms *it*" (*i.e.*, the valley of the Tyropœon) "the vale (Emek) of the dead bodies and of the ashes," makes me desirous of asking whether the use there of the word "Emek" does not imply that the "*valley* of the dead bodies," &c., was one of a different *character*, and, therefore, a different valley, from that of the Tyropœon, respecting which another term, "gai," is used?

The Upper Gihon, Quarterly Statement, 1883, p. 216.—Does the word "upper" in the original necessarily apply to *Gihon?* May it not be used, as in the A.V., so as to read "the upper outlet of Gihon," inasmuch as there is, I believe, no direct mention anywhere in the Bible of any *Lower* Gihon?

Valley of Giants, Quarterly Statement, 1883, p. 222.—May I venture to ask that your readers may be afforded some explanation of the reasons which have caused the expression of the view that this valley was *north* of Jerusalem; and is not the one which extends nearly to Bethlehem as Josephus says it was?

Uzziah's burial, Quarterly Statement, 1884, p. 242.—What are the difficulties "in reconciling the accounts in Kings and Chronicles?" Does not the principal one arise from maintaining that "the City of David was another name for *Jerusalem* generally?" whereas there is no difficulty at all if we regard them as analogous to Henry VIIth's Chapel and Westminster Abbey.

The Siloam Tunnel, Quarterly Statement, 1884, p. 249.—May I ask whether the following is a correct translation of the Syriac version of 2 Chronicles xxxii, 30, and if so whether it may not be considered as strongly corroborating the view that the Siloam Tunnel was made by Hezekiah? I am informed that the *Syriac* in this verse reads:—

"And Hezekiah hid the spring (or outgoing) of the waters of the upper fountain and sent them into the *western tank of* the City of David."

The Lower Gihon, Quarterly Statement, 1884, p. 249.—How can the Gihon mentioned in 2 Chronicles xxxiii, 14, be the Pool of Siloam, when the Gihon is distinctly said to be "Gihon in the Nachal?" I have always understood previously that this passage was the principal proof that the *Virgin's Fountain* was to be identified with *Gihon*, as there is no other *spring* in the Kidron than the Virgin's Fountain; and no other *Nachal* in the environs of Jerusalem than that of the Kidron.

En Rogel and Gihon.—May it be an allowable explanation for the reconcilement of the somewhat conflicting views respecting these two, to suppose that "Gihon" of Hezekiah is the *Virgin's Fountain*, while the "Gihon" of Solomon's anointing is equivalent to the "En Rogel" of Joshua, and is the same as the *Pool of Siloam?* Of course this necessarily supposes the correctness of the distinction made between an Upper and a Lower Gihon—a matter which I have made the subject of a previous query, for the sake of obtaining fuller information.

December 10th, 1884. H. B. S. W.

THE WATERS OF SHILOAH.

In *Quarterly Statement*, 1884, p. 75, I put forward the theory that these waters flowed along an aqueduct on the east side of Ophel from the Virgin's Fountain to the mouth of the Tyropœon. I am anxious for my theory to be tested (and (?) proved) by excavation. Meanwhile, it will be well to dispose of the objections raised against my aqueduct in the last two numbers.

Captain Conder seems to object—

(1) That it has left no known traces of its existence. As the same might have been said of the Moabite Stone before 1868, and the Siloam Inscription in 1879, the objection has obviously no weight. Only let traces be looked for where they may be supposed to exist, and then no doubt they will be found.

(2) That it is so drawn on my plan that it apparently joins on to an existing channel, in which water runs the opposite way. This objection, I consider, was answered by anticipation in the three queries placed in my plan against this part of the aqueduct.

Whether the aqueduct within the Tyropœon ran on the line marked, or on another line, or on no line at all, does not really affect my theory that there used to be an aqueduct on the east side of Ophel between the Virgin's Fount and Siloam.

Professor Sayce offers a curious objection. He says, Sir Charles Warren failed to find any traces of it in his galleries (or shafts) on Ophel, but he does not add (as he rightly might have done) that all these shafts, except possibly two, were *north* of the point whence my supposed aqueduct ran southwards, and that the two exceptions were at least 40 feet higher in elevation than the level of the supposed aqueduct. Under these circumstances it was impossible for Sir C. Warren to discover the aqueduct; he wrote to me, however, in November, 1883, as follows:—"I think it quite possible that there was an aqueduct on the east side of Ophel, as you suggest."

To sum up—

Professor Sayce, in connecting the waters of Shiloah with the Siloam Tunnel, is driven to attribute the latter to Solomon, and not to Hezekiah whom Captain Conder and others (myself among the number) regard as its author.

Captain Conder, by rejecting both Professor Sayce's tunnel and my aqueduct, has the *waters* of Shiloah left on his hands *without any water* at all. For water flowing down the Tyropœon could not be said to go softly, and waters flowing in a natural channel down the Kedron could not be the waters of *Shiloah*, as the meaning of this word shows that they ran through an aqueduct.

Here my supposed aqueduct affords a happy way out of the dilemma. It is most probable that the mouth of the Tyropœon was turned into well-irrigated gardens by means of such an aqueduct, centuries before the gigantic undertaking of making the Siloam Tunnel was ever dreamt of.

October 27th, 1884. W. F. Birch.

ZION, THE CITY OF DAVID.

On urging a Society that sends its maps over the world not to be afraid, but boldly to put the City of David where Nehemiah places it, *i.e.*, south of the Temple, I was told in reply, "You have convinced nobody." This is an objection that has often, on other occasions, been urged against the truth.

I have not claimed to have convinced any one, but still some have been convinced. Professor Robertson Smith says that the Ophel site alone "does justice to the language of the Old Testament." Professor Sayce says, "Mr. Birch seems to me indubitably right in holding that the City of David stood on the so-called hill of Ophel" (*Quarterly Statement*, 1884, p. 80). Sir Charles Warren has for thirteen years candidly owned that the Book of Nehemiah places the City of David on Ophel. Captain Conder, after five years' unyielding opposition, at length admits that "when Ophel came to be inhabited, the name (City of David) may be supposed to have included Ophel" (*id.* 242).

My theory, then, ought not to be rejected off-hand on the plea that no one believes it. Yet what I undertook to do was not to convince my opponents, but to confute their arguments. Two widely divergent objections are urged against me in the July and October numbers. Captain Conder credits me (p. 242) with "confining ancient Jerusalem to the insignificant space south of the Temple," while Professor Sayce thinks I endanger my views by supposing that the City of David stretched across a deep valley;—in other words, the former thinks that I make Jerusalem small, and the latter that I make the City of David large. Strange to say, the *fact* is, I make Jerusalem larger and the City of David smaller than does either of these writers. Want of due circumspection has caused the one to strike on Scylla, and the other to fall into Charybdis. Neither can point to a single passage of mine in these pages in support of the theories they thus attribute to me.

Further, (1) in reply to Captain Conder I must remind him that I have *already* pointed out (1884, p. 81) that "the City of David was only part of Jerusalem," and that I place the former on Ophel, while I make my Jerusalem *larger* than his (*id.* 81). Thus, "confining Jerusalem to Ophel" is just what I have *not* done.

Again, why (2) does Professor Sayce speak of my "supposing the City of David stretched across a deep valley?" Where have I supposed it? So far from doing so, I have consistently for six years repudiated any theory that does not place Zion, the City of David, solely on Ophel (so-called).

My Jerusalem theory is as follows:—

1. The Tyropœon Valley was part of the valley of Hinnom which ran from near the Jaffa Gate through the present city to the Kedron.

2. Zion, the City of David, was entirely on the southern part of the eastern hill, *i.e.*, on Ophel (so-called).

3. The sepulchres of David were in this same part.

4. The "gutter" (2 Sam. v, 8) by which Joab gained access to Zion, was the secret passage (connected with the Virgin's Fount) discovered by Sir C. Warren.

5. Araunah betrayed Zion to David either by divulging the secret of the "gutter," or by assisting Joab in ascending it.

I have defied any one to upset No. 2, but I am willing to extend the challenge to the other points. Accordingly, when Professor Sayce comes boldly to the attack, I cannot run from my guns, but must ruthlessly mow down his objections to my (not Canon Birch's) theory by confuting them. I am glad, however, to say that Professor Sayce agrees with me, partially on No. 1, and all but entirely on Nos. 2 and 3, but he wholly rejects No. 4, and consequently No. 5, though, since he is "quite ready to believe whatever Josephus may say provided it is not contradicted by external or internal evidence" (p. 172), I anticipate in the end his hearty acceptance of my last point.

Professor Sayce's objections to No. 4 are practically three.

(1) He urges that 2 Samuel v, 6–8, has to do with the capture of *two* places, and that therefore it was not Zion, the City of David, to which Joab gained access.

(2) That Joab could not have got up the shaft found by Sir C. Warren, since in Professor Sayce's opinion it did not then exist, being of later date than the Siloam Tunnel.

(3) That the Hebrew word for "gutter" means a waterfall, and therefore could not be a rock-cut shaft or passage.

To make the matter in dispute more intelligible, I give in full the passages in question :—

2 Samuel v, 6. "And the king and his men went to Jerusalem unto the Jebusites, the inhabitants of the land, which spake unto David, saying, Except thou take away the blind and the lame, thou shalt not come in hither : thinking, David cannot come in hither.

7. "Nevertheless David took the stronghold of Zion : the same *is* the City of David.

8. "And David said on that day, Whosoever getteth up to the gutter, and smiteth the Jebusites, and the lame and the blind, *that are* hated of David's soul, *he shall be chief and captain.* Wherefore they said, The blind and the lame shall not come into the house."

1 Chronicles xi, 6, states : "And David said, Whosoever smiteth the Jebusites first shall be chief and captain. So Joab the son of Zeruiah went first up and was chief."

To prove his first point, Professor Sayce tries to make a short cut, by impressing into his service Hebrew grammar. He protests against my describing his interpretation of two places being taken as a "popular error" (perhaps my *popular* was ill-chosen), and asserts that "the Hebrew tenses admit of no other (interpretation) ; we have *waw consecutivum* in each clause. The narrative sets before us a sequence of events. . . . David captured the outpost of Zion, and *after this*—but on the same day—he promised rewards to 'whosoever getteth up to the gutter,' &c."

My contention (p. 72) was that in verse 8 the sense would be made clearer by translating "And David said" by "For David said," &c., since this verse explains *how* David succeeded in taking Zion, the capture of which was mentioned in the previous verse.

The question is, *Must* the words translated "And David said" mean "And *after this* (the previously mentioned event) David said," or may they not mean "For David said," and, if so, does not this rendering agree better with the rest of the passage?

A disputed point of grammar must be dealt with by a competent Hebrew scholar. I extract the following from a full explanation of the question, kindly furnished to me by Professor Theodores :—

"The verbal form called 'future' (Hebrew עתיד by the older grammarians), is variously named in the modern grammars as imperfect, aorist, fiens, &c. . . . The letter ו prefixed to the 'future,' generally provided with the vowel Pathach (-) and followed by a dot called 'strong Dagesh' in the initial letter of the verb, has the property of changing the verb from the future to the past, whence the Hebrew grammarians named it 'the vaw conversive.' Modern grammarians have invented for it different names, *consecutive*, voluntative, relative, &c. The interpretation of the prefix ו varies between *and*, *now*, *for*, *but*, *still*, *nevertheless*, *then*, *inasmuch as*, *namely*, *consequently*, and probably still more particles, either temporal or logical.

"It is not true that וַ before a verb in the future *must* be interpreted to mean 'afterwards' (Sayce, p. 174). Examples are numerous. . . . Thus in Genesis xxxvii, 5, we read (A.V.), 'And Josephus dreamed a dream, and he *told it* his brethren, and they hated him yet the more.'"

Here follows verse 6: "And he said [future with וַ] unto them, Hear, I pray you, this dream which I have dreamed." Would it not be absurd to render the beginning of verse 6, viz., וַיֹּאמֶר (wayyōmer), "Afterwards he said unto them?" Joseph did not tell his dream in consequence of his brothers' hatred; but his brethren hated Joseph in consequence of his communication about dreaming. In point of time, verse 6, commencing with "And he said," is anterior to the words "and they hated him yet the more" in verse 5. Again, in Exodus xl, 17, we are informed that on the first day of the first month in the second year the tabernacle was reared up. The next verse, the 18th, reads, "And Moses reared up [future with וַ] the tabernacle, &c." Can וַ here mean "afterwards?" What! *after* the rearing up of the tabernacle, Moses reared up the tabernacle!

Professor Theodores adds this translation :—(6) "Then marched the king and his men towards Jerusalem against the Jebusite inhabiting the land, and he said to David thus, Thou wilt not enter here, except thou set aside the blind and the lame, meaning: David shall not enter here! (7) Nevertheless, David conquered the fortification 'Zion,' which is 'the City of David. (8) For David proclaimed on that day, He that smites the

Jebusite, reaching so far as the aqueduct, along with the lame and along with the blind, those hated by the soul of David . . . [The Scripture is here elliptical, not stating what should be done to him, but the want is supplied in 1 Chronicles xi, 6], because the lame and the blind, even they say he shall not enter within. (9) Thus David settled in the fort and called it the City of David. And David built round about from Millo and inward." Professor Theodores further adds:—"In the Hebrew commentary, called Biur, on the translation called Mendelssohn's, the following opinions are stated:—Verse 7. 'And David conquered.' This 'And' is adversative and means *but, nevertheless.* Verse 8. 'And David said.' In the preceding verse (7) the text states in a *general* way that David overpowered the stronghold, but now in (8) the *particulars* are stated how the conquest was effected."

Thus it is amply shown that the grammar does not prove that two places were taken in 2 Samuel v; 1 Chronicles xi. If I may add a word of my own, I would say there would be an unaccountable *lacuna* in the sacred narrative if two places had been taken, since no mention whatever is made of the second capture. The passages give a complete story of one place being taken, stating the fact of its capture, that a reward had been offered for its capture, and the name of the successful hero.

The A.V. is right in the heading of 1 Chronicles xi: "He winneth the castle of Zion from the Jebusites by Joab's valour," and so far I was wrong in describing Professor Sayce's interpretation as a *popular* error. Thus I conclude that it *was* the fort (of) Zion to which Joab gained access.

But, secondly, Professor Sayce says (175): "The careful workmanship of these passages, the niches for lamps—a Græco-Roman invention—the iron ring, and the fact that the lower conduit (discovered by Sir C. Warren) led into the winding Siloam Tunnel, all go to show that this lower conduit was later in age than the Siloam one."

a. Niches for lamps.—In his account of the Siloam Tunnel (1881, p. 142) Professor Sayce mentions a niche opposite the inscription, and admits the reasonable suggestion that it was for the lamp of the workman that cut the letters. Was the inscription therefore (and the tunnel as well) a Græco-Roman invention? I will not, however, press the point. If Professor Sayce will refer to Colonel Warren's account of the passage, he will, I think, find no mention whatever of "niches for lamps," but only of piles of loose stones (Letters, p. 39; Memoirs, Jerusalem, p. 367), an invention dating as far back as Jegar—sahadutha.

b. "*The iron ring.*"—My initials and H.B. are smoked beyond the broad arrow in a low passage in the cave of Adullam, but the antiquity of the cave is not consequently reduced. The ring *must* have been added after the passage was made, but how long after no one knows, and therefore the *iron* age proves nothing.

c. The lower conduit, &c.—It would, however, be quite as correct (more correct I believe) to say "the Siloam Tunnel led into the conduit." Colonel Warren's professional opinion (Letters, p. 40) on discovering the passage, was

as follows:—"The fact of the newly found aqueduct being nearly in a line with the first 50 feet of the old one, gives the idea that this may originally have been the means of providing Ophel with water, and that the remainder of the duct to the present Pool of Siloam may have been an afterthought."

He also holds to the same opinion in "Underground Jerusalem" (p. 333). Thus Professor Sayce's second objection fails.

His third objection I propose, if time permit, to answer fully when I have exposed in detail the fallacies of the arguments urged for placing the City of David in any other position than on Ophel (so-called). It will suffice now to say that the evidence proving that the gutter was an aqueduct, and that Araunah betrayed Zion, is given in *Quarterly Statement*, 1878, p. 184; 1879, p. 104.

W. F. Birch.

THE ROUTE OF THE EXODUS.

I.

Permit me to reply to the views of Mr. Baker Greene, as given in the October number of the *Quarterly Statement* of the Palestine Exploration Fund, and which have been made the subject of a leading article in the *Morning Post* of the 22nd October, regarding the identity of Mount Hor with Mount Sinai. I regret not having seen Mr. Greene's book, but as his views are very fully set forth in the *Quarterly Statement* I will deal with a few points on which he lays stress in that publication; and I hope to be able to show, by the aid of a few crucial tests, that his views are altogether untenable.

I may be allowed to point out that this is pre-eminently a question which requires some personal knowledge of the countries referred to; and it does not appear from Mr. Baker Greene's statement that, like the venerable Dr. Beke, he has made a pilgrimage to the East in order to verify his views by personal observation. On the other hand, I may remind the reader that the identification of Mount Sinai (Jebel Mûsa) in the peninsula of Arabia Petræa with the "Mount of the Law" has been maintained by eminent men who have personally examined the district, such as Dr. Robinson, Burkhardt, the late Professor Palmer, and Col. Sir Charles W. Wilson, formerly of the Ordnance Survey of Sinai. After this consensus of opinion it might have been supposed that nothing more was to be said.

Mr. Baker Greene asserts that after the passage of the Red Sea the Israelites followed the old caravan road across the Tîh tableland to Akabah, which he identifies with Elim, where there were "twelve wells and threescore and ten palm-trees" (Exod. xv, 27). As Elim merely means "a grove of palms," the name might doubtless have

been applied to Akabah, or to several other spots where groves of palms happened to grow; so that little value can be attached to this point of identification.

But taking the sacred narrative as it stands, let us see how it fits in with Mr. Greene's views. The Israelites are stated to have gone three days in the wilderness, and to have found no water (verse 22). Mr. Greene then draws the probable inference that on the fourth day they found water, and he identifies the spot where the water was found with Kala'at Nakhl, which is situated about half-way between Suez and Akabah on the caravan road, and is considered a fourth day's stage for caravans. Of this place Professor Palmer says:—"The country is nearly waterless, except a few springs, situated in the larger wâdies; but even here water can only be obtained by scraping small holes in the ground and baling it out with the hand. All that is obtained by the process is a yellowish solution, which baffles all attempts at filtering" ("Desert of the Exodus," p. 287). Such was the water with which, according to Mr. Baker Greene's views, the thousands of Israel, with their flocks and herds, were fain to slake their thirst after a march of three days under a broiling sun, and over one of the most desolate and forbidding tracts in that part of the world!

But, even supposing the water to have been at that period more plentiful, another question remains to be answered: Has Mr. Baker Greene ascertained the distance from Suez to Nakhl, which was reached, as he supposes, on the fourth day? If he will measure the distance on a good map he will find that it is about seventy English miles in a straight line, and in addition the march involves the ascent of the ridge of Jebel er Râhah of about 2,000 feet. To suppose that the Israelitish host, consisting of men, women, and children, together with their flocks and herds, could have marched seventy miles and crossed a ridge of 2,000 feet in three days is a demand on our credulity which he can scarcely hope to be granted. That it can be done on camels or horses is doubtless true; but to accomplish the journey on foot would tax the powers of a skilled pedestrian, and would be impossible for women and children.

Having disposed of this point, which lies at the threshold of Mr. Baker Greene's argument, I will take up another. It is stated that the Israelites on reaching Elim found twelve wells, and that they "encamped there by the waters," evidently referring to the waters of the wells; but surely, if Elim means Akabah, as Mr. Greene supposes, we might have expected to find some reference to the waters of the Red Sea (or Gulf of Akabah) as being in the vicinity of the camping ground.

But another objection to Mr. Greene's views meets us at the commencement of Exodus xvi, where it is stated that on leaving Elim the Israelites "took their journey and came unto the wilderness of Sin, which is between Elim and Sinai." In his statement Mr. Greene seems to make a confusion between the "wilderness of Sin" and the "wilderness of Zin," which latter lay along the Arabah, and probably included Elim and Akabah. The wilderness of Sin, according to the best

authorities, lay to the west of the Sinaitic peninsula. In any case the two names refer to two different districts. That spelt with *samech* being referred to in Exodus xvi and xvii; that spelt with *tsade* in Deuteronomy xxxii, 57; Numbers xiii, 21; xxvii, 14; and Joshua xv, 3, these being connected with Kadesh-Barnea.[1]

In reference to the statement of St. Paul, it is not difficult to understand why he places Mount Sinai in "Arabia." The term was doubtless used by the Apostle in a general sense to include the vast region of desert-land lying to the south and east of Judæa. Mr. Greene himself sees the difficulty of accounting for the fact that Mount Hor should be associated with the lesser event of the death of Aaron rather than with those stupendous manifestations of Divine power which were connected with the giving of the Law.

Again, if Elim be Akabah, how can this be reconciled with the statement of Numbers xxxiii, 10, that the Israelites "removed from Elim and encamped by the Red Sea," inasmuch as Akabah is actually by the Red Sea? Other difficulties might be cited, but the above are probably sufficient to show that Mr. Baker Greene's identification cannot be admitted.

Nor can I admit that Kadesh-Barnea is Petra. From personal experience of the difficulties of the mountain pass leading from the Arabah Valley to Petra, I may safely affirm that it would have been impracticable for the Children of Israel when on their way to the Promised Land.

EDWARD HULL.

Dublin, November 18, 1884.

II.

PROFESSOR HULL having been good enough to place at my disposal a proof-sheet of his objections to my view of the Exodus, I gladly avail myself of the opportunity of replying to them forthwith. Negatively it is a source of satisfaction to me that, with this exception, no one of the many members of the Palestine Exploration Fund has challenged the soundness of my arguments.

I must confess, however, that I find considerable difficulty in knowing how to deal with Professor Hull's criticisms. I have no right to complain that he has not read my book before entering the lists, but not having done so, I think I may justly complain that he should have assumed that I did not take the trouble of studying with ordinary attention the subject of which I treated. He tells me how to ascertain the distance from Suez to Nakhl; quotes Professor Palmer as to the waterless character of the country around the last-named place;[2] he attributes to me "a

[1] The Rev. Dr. Stubbs, of Trinity College, Dublin, has kindly verified the originals for me.

[2] Kalaat el Nakhl, with its fort and wells, has been frequently mentioned and described by travellers for centuries past. See Thevenot's account, quoted

confusion" between the wildernesses of Sin and Zin; he gravely informs the readers of the *Quarterly Statement* that the initial letters of these words are different, and with equal gravity adds in a footnote that my respected friend Dr. Stubbs has verified the fact by reference to those passages in the Hebrew version where the names occur. He somewhat authoritatively asserts that personal observation of the country is pre-eminently required for the settlement of the points in issue, and, with what most persons will be inclined to think singular infelicity, refers to the late Dr. Beke's pilgrimage in search of the true Mount Sinai. Finally, he refers to the authority of a number of persons as to the identity of Jebel Mûsa with Mount Sinai,[1] and airily adds that after this consensus of opinion it might have been supposed that nothing more remained to be said. To measure small things by great, I may remind the Professor that there was a still greater consensus of opinion against Galileo when he maintained that the earth moved, and against the first geologists who ventured to deny that the creation of the world was effected in six solar days.

And now to deal with Professor Hull's objections in detail:—

He says that little value can be attached to the identification of Elim with Akabah because of the presence of palm-trees at the last-named place. I would go farther, and say no value whatever could be attached to such a ground of identification taken *per se*. But if he will turn to my contribution to the last *Quarterly Statement* he will find that I wrote, "I cannot give here in detail the many reasons, Scriptural, philological, historical, and geographical, for my identification of the Elim of Exodus xv, 27, with the Elath of Deut. ii, 8, and 1 Kings ix, 26," and the modern

by Ritter, *Erdkunde*, 14. He crossed the desert from Suez to Akabah in 1658, the journey occupying six days, of which sixty-seven hours were spent in travelling, which closely corresponds with the estimated time in the "Tabula Peutingeriana" (sixty-eight hours). See also Dr. Shaw, "Travels in Barbary and the Levant," 1721, p. 477; Dr. Pococke, Bishop of Meath, "Description of the East," 1743, i, 265. Nakhl is the half-way house on what Captain Burton describes as the oldest route in the world, and it has never been surveyed.

[1] It is not of much consequence, but as a matter of fact Burckhardt identified Jebel Serbal, a mountain thirty miles to the westward of Jebel Mûsa, with Sinai, an opinion shared by Lepsius and others. Captain Burton thus pithily sums up the respective claims of the various mountains in the peninsula to be "the true Sinai:"—"It is evident that Jebel Serbal dates only from the early days of Coptic Christianity; that Jebel Mûsa, its Greek rival, rose after the visions of Helena in the fourth century; whilst the building of the convent by Justinian belongs to A.D. 527. Ras Sufsaveh, its rival to the north, is an affair of yesterday, and may be called the invention of Robinson; and Jebel Katerina, to the south, is the property of Rüppell." ("Midian Revisited," i, 237.) I have the best reason for knowing that Professor Palmer had accepted my views of the Route of the Exodus before he left England in 1882, and that he would probably have taken the first opportunity of avowing his change of opinion had he returned.

Akabah. I cannot be expected to summarise the contents of an octavo volume of nearly five hundred pages.

Professor Hull urges the impossibility of the thousands of Israel, with their flocks and herds, finding a supply of water at Nakhl, and the improbability of their making the journey from Suez to that place in three or four days. Unfortunately for his inference he proves too much. There is no place in the desert of the Tîh, where they are said to have wandered for forty years, where water could have been obtained for such a multitude. It is generally supposed that the released captives, including old men, women, and children, numbered between two and three millions. If such was the case, and they had formed a column ten abreast, allowing only a yard depth for each rank, the caravan, exclusive of flocks and herds, would have reached from Suez to Akabah. I believe that the released captives were not in such excessive numbers as to preclude the possibility of their doing what is annually done by the Egyptian Haj, namely, crossing the desert to Akabah in about a week's time. Professor Hull says that from his personal experience of the difficulties of the mountain pass leading from the Arabah to Petra, he can safely affirm it would have been impracticable for the Children of Israel on their way to the Promised Land. This objection, like the preceding one, rests, I presume, on their supposed numbers. But let us glance at certain admitted historical facts. At some period of their journeyings the Israelites were beyond all question in the middle portion of the Wâdy Arabah. They desired to pass through Edom, which throughout is a very mountainous region, in order to reach Moab and the Trans-Jordanic country to the north. The Edomites refused permission, and "came out against Israel with much people and a strong hand" (Numb. xx, 20, 21), "wherefore Israel turned away from him." But where did Israel turn? It is conceded on all hands that on quitting Mount Hor, the Israelites descended the Arabah "by the way of the Red Sea," by which is here meant beyond all dispute the Gulf of Akabah (Deut. ii), and, passing Ezion Gaber and Elath, "compassed Mount Seir," that is, Edom, and following the east "coast" of that country pursued a northerly direction to Moab. About this portion of the route followed by the Israelites there never has been any question. But the reason they took this circuitous course was because they were not enabled to pass through Edom, and this inability depended not upon the physical characteristics of the country, but on the hostile attitude of the Edomites. But the difficulties of this particular pass by which Professor Hull proceeded from the Arabah to Petra would have been equalled if not exceeded by those of the other "wâdies" debouching from the Idumean range into the Arabah. So that we must either reject as unhistorical the statement that the Israelites would have crossed Edom from the Arabah if they had been permitted to do so, or admit that those physical difficulties on which Professor Hull lays such stress would not have been insuperable.

Professor Hull says it is not difficult to explain St. Paul's placing

Mount Sinai in Arabia. "The term was doubtless used by the Apostle in a general sense to include the vast region of desert land lying to the south and east of Judæa." But this is begging the whole question. There is not a tittle of evidence that St. Paul ever thought or heard of the so-called Sinaitic peninsula. I affirm without fear of contradiction that no human being ever dreamt of extending Arabia west of the Arabah until Ptolemy, at the close of the second century, introduced what he called Arabia Petræa, an innovation which was never sanctioned or recognised by the Arabian geographers. It is not unreasonable to conclude that St. Paul, being a highly educated man, knew what he was writing about, and when he referred to Arabia meant the country which was so designated by his contemporaries. For the explanation of the curious fact that the association of Mount Hor with Aaron's death should have apparently survived those arising from the tradition of the law I must refer to the "Hebrew Migration." It should not be forgotten that, wherever situated, Mount Sinai fell into oblivion among the Jews. No pilgrimages were made to it, and its exact site was certainly unknown to Josephus, or he would have fixed its locality by its proximity to some well-known place.

The "confusion" which Professor Hull attributes to me respecting the wilderness of Sin and Zin supplies an opportunity, of which I may be permitted to avail myself, not only of satisfying the Professor that he has done me an injustice, but of bringing under the notice of the readers of the *Quarterly Statement* some interesting facts respecting Sin and Zin which will, I believe, lead them to share my opinion that they were identical.

The wilderness of Sin was between Elim and Sinai (Exod. xvi, 1), and in Exodus xvii we have mention made of two very remarkable incidents which must have happened in, or in the immediate neighbourhood of, that wilder ness, namely, the smiting of the rock with the production of water, and the battle with the Amalekites. Let us briefly consider all that is told us respecting these two incidents.

According to the account in Exodus xvii, the Israelites murmured through want of water, and obtained the miraculous supply from the rock in Horeb, the place bearing the name "Massah and Meribah, because of the chiding of the children of Israel, and because they tempted the Lord." We have, however, another account of this miracle in Numbers xx. It is there stated that "then came the children of Israel, even the whole congregation, into the desert of Zin in the first month, and the people abode in Kadesh, and Miriam died there." Whilst in this place "there was no water for the congregation." The people rebelled, and Moses, by command of the Lord, smote the rock, and the water came forth abundantly. "This is the water of Meribah, because the children of Israel strove with the Lord, and He was sanctified in them."

Now no one will seriously contend that there were two distinct miracles, performed under precisely similar circumstances, at an interval of nearly forty years, in places widely apart, and that the water produced bore in both cases the name "Meribah." But all doubt on the matter is removed

by referring to the language which was addressed by the discontented Israelites to their leaders. They demanded why they had been brought into the wilderness with their cattle to die, and asked "wherefore have ye made us to come out of Egypt to bring us into this evil place? it is no place of seed, or of figs, or of vines, or of pomegranates, neither is there any water to drink." This language was appropriate if used by people who had only recently quitted Egypt, and who "in the first month" (Numb. xx, 1) after their departure had arrived in a region where they were forced to submit to great privations; but it is hopelessly unintelligible as coming from people who had been thirty-nine years straying about in the wilderness, the generation which had quitted Egypt having by that time almost entirely died out.

The second incident recorded in Exodus xvii is the battle with the Amalekites, and if the accepted view that the wilderness of Sin was in the south-west region of the Sinaitic peninsula, this must have been fought close to the Gulf of Suez. The negative and the positive evidence against such an assumption are, however, overwhelming. The inscriptions on the steles at Sarbut el Khadem, which is close to the route which must have been followed by the Israelites if they entered the peninsula, prove that the mines in that neighbourhood were worked by the Egyptians for centuries before the Exodus took place, and for long afterwards.[1] If, however, this particular region was occupied by Egyptians when Moses led the captives away, it is in the highest degree improbable that he would have entered a place occupied by his enemies, and still more so that the circumstance of having done so should have been unnoticed in the Biblical records. But by what possible train of reasoning can the presence there of the Amalekites be accounted for? Who were the Amalekites? Amalek was the grandson of Esau, and one of the Dukes of Edom (Gen. xxxvi, 12). The Edomites and the Amalekites were frequently treated as identical. It was the Amalekites who barred the progress of the Israelites when on their way to the Land of Promise (Numb. xiii, 29), within a few months after this supposed battle in sight of the Gulf of Suez. But we have a specific account of a battle between the Israelities and the Amalekites, in which, however, the latter were victorious, and the scene of the engagement was in the wilderness of Zin near Kadesh (Numb. xiv), the same incident being referred to in Deuteronomy i, and it was this reverse which led to the return of the Israelites down the Arabah to Elath, and their subsequent journey by the east of Edom to Moab.

It is therefore simply inconceivable that the Amalekites, who beyond all question were Edomites, should have been found at the time of the Exodus in Egyptian territory, and then actually occupied by the Egyptians, and that they should, without any imaginable reason, have given battle there to the Israelites. In the battle recorded in Exodus xvii the Israelites were victorious, while in that mentioned in Numbers xiv and Deut. i they were vanquished. There can be no reason to doubt that these

[1] "Heb. Mig.," p. 174.

engagements were consequent on the efforts made by the Israelites to pass through Edom, and were fought in the same region

It is worth while to ascertain what opinion a Jew living at the commencement of the Christian era entertained respecting the locality where the first battle with the Amalekites was fought. Josephus, in his pharaphrase of this portion of the Biblical narrative, states that a coalition was formed against the Hebrews, and that "those who induced the rest to do so were such as inhabited Gobolitis and Petra: they were called Amalekites" ("Ant.," iii, 2). It is perfectly clear, therefore, that, in the opinion of the great Jewish historian, this battle was fought in Edom, and that the Sinaitic peninsula was wholly absent from his mind. He certainly had no opportunity of consulting those great modern authorities which place Mount Sinai between the Gulfs of Suez and Akabah.

Whilst the Israelites were still between Elim and Sinai they met with the Kenites and concluded a league with them (Exod. xviii). But the same insuperable objection to the transportation of the Amalekites to the Sinaitic peninsula, applies to placing the Kenites in the same region. This latter people, though distinct from the Amalekites, occupied with them the country on the east of the Arabah. They are positively referred to by Balaam (Numb. xxiv, 7); they aided Judah in the invasion of Southern Palestine (Judg. i, 16); and on the occasion of Saul's campaign against the Amalekites (1 Sam. xv), which beyond all question was fought in the region to the south of the Dead Sea, the Kenites at the request of the king separated themselves from the Amalekites. What imaginable reason could Jethro, who was the Sheikh of the tribe, have had for taking his people for a flying visit to the so-called Sinaitic mountains?

It will doubtless be urged that my identification of the wilderness of Sin with that of Zin is irreconcilable with the "Itinerary" (Numb. xxxiii), in which they are apparently distinguished from each other, and placed very far apart. My reply is, that the result of a critical collation of the Itinerary with the narrative of the principal events which marked the journeying of the Israelites from Egypt to the Promised Land shows that the former is a production of a more recent date, and was probably compiled either during or immediately subsequent to the Babylonian captivity. It is observable that the Itinerary tells us no new facts, though it furnishes names of places of which there is no mention elsewhere. It would be impossible for me to give here an exhaustive analysis in support of the inference of the comparatively late date of this composition, but one or two points may be noticed pertinent to the present matter. In the Itinerary the Israelites are said to have proceeded from Kibroth-hattaavah (which we know was in the wilderness of Sin, Exod. xvi) to Hazeroth, and thence to a number of places of which we have no mention elsewhere. But we learn from another source that on removing from Hazeroth the Israelites "pitched in the wilderness of Paran" (Numb. xii, 16), which is identified with that of Zin, from which the spies were sent forth. It is clear, therefore, that if according to the Itinerary the Israelites proceeded from Kibroth-hattaavah, in the wilderness of Sin, to Hazeroth which was

the next station to the wilderness of Paran, or of Zin, the deserts of Sin and Zin must have been contiguous, or were identical if the journey from Hazeroth to Zin marks the return to Elath at the head of the Gulf of Akabah. As, however, the spies "searched the land from the wilderness of Zin unto Rehob," the wilderness of Sin, which was close by, if not identical with, that of Zin, and which lay between Elim and Sinai, could not have been in the Sinaitic peninsula. I may add that one of the curious results of taking the statements in the Itinerary in their received sense is that, as the Israelites did not reach the wilderness of Zin until immediately before the death of Aaron, the spies who set out from thence could not have undertaken their mission until nearly forty years after the departure from Egypt. But the forty years' delay in the wilderness was declared to have been the punishment for the disobedience of the Israelites on the return of the spies (Numb. xiv).

There are many who regard the Pentateuch as a continuous narrative from the beginning of Genesis to the end of Deuteronomy, and who make it an article of faith to ascribe the authorship to Moses. I cannot understand why they do so, or why they consider it as incompatible with inspiration to admit that it may be the work of many hands. The Gospels do not speak with diminished authority because they are the productions of four different evangelists. On the contrary, the confirmation they respectively afford of the facts they record furnishes more conclusive proof of the sacred narrative than if the story had been told by only a single witness. And so it is with the various distinct records which have been welded together in the Pentateuch. By their substantial agreement in the main, no less than by their differences in details, in forms of expression, and in dialect, they give us, by what are termed "undesigned coincidences," the most absolute proof of the historical accuracy of this great movement of liberated Hebrews from Egypt to Palestine which was destined to exercise so great an influence on the human race. Carefully preserved by the different nations of which Trans-Jordanic and Cis-Jordanic Israel and Judah were composed, they were subsequently collected and presented in the form in which we now see them. The Mount of God was to some known as Horeb, to others as Sinai, and probably to all as the *Har-ha-har*, the Mount of Mounts. The Elim of the records of one section is the Elath of another, as the Hazarim of the one is the Hazeroth of the other, and in like manner the wilderness which by some was kept in their memories as that of Sin, was referred to by others as that of Zin.[1] These are, however, differences which, if viewed in a proper light, only serve the more conclusively to convince us of the authenticity and the antiquity of these precious records.

J. Baker Greene.

[1] We have an illustration of the difference in the use of sibillants by the Cis-Jordanic and Trans-Jordanic sections of Israel in Judges xii, 6. The Sibboleth of the former was the Shibboleth of the latter.

THE PALESTINE EXPLORATION FUND

NOTES AND NEWS.

It has been found necessary to postpone the first instalment of Mr. J. Chichester Hart's papers on the "Natural History in the Desert" until July. The work will be completed in about four instalments. Each number will be illustrated by a large coloured plate.

The two communications from the late General Gordon published in this number are merely, as will be seen, notes sent to the Secretary, and placed aside until they could be revised by the writer. Of late years he took a deep interest in the proceedings of the Society, though his own conclusions, as may be gathered from the papers here published, were based on other than purely scientific grounds. The theory put forward in the note on Golgotha has been further developed in Gordon's "Reflections in Palestine."

The Committee have to thank Mr. Laurence Oliphant for two important communications which will be found on pages 82 and 94. The other papers promised to the Society by a recent traveller have not yet reached us, but we shall almost certainly be able to produce them in July.

The following is the Balance Sheet for the year 1884:—

BALANCE SHEET.

	£	s.	d.	*December 31st*, 1884.	£	s.	d.
Subscriptions, Donations, and Lecture returns..	3,709	4	6	Exploration	1,851	13	7
Loan	850	0	0	Maps and Memoirs ..	2,592	13	7
Maps and Memoirs ..	862	1	0	Salaries	373	15	6
Books	224	3	5	Rent	121	0	0
Photographs	9	5	3	Printers	504	3	1
Balance (*January 1st*, 1884)	172	5	8	Office expenses	48	12	5
				Photographs, cost of ..	11	12	8
				Postage and Parcels ..	74	5	10
				Balance	249	3	2
	£5,826	19	10		£5,826	19	10

Examined and found correct.

(Signed) WALTER MORRISON.

It will be seen that the expenditure includes the sum of £1,851 13*s.* 7*d.* due to exploration. This makes the total cost of the Geological Expedition about £2,300, part of which was included in the balance sheet of the preceding year. The sum of £2,592 13*s.* 7*d.* was expended on "Maps and Memoirs." Against this is the sum of £862 1*s.* received on that account, and the valuable property of the Great Map and the reduced modern map in the possession of the Society, besides the copies which remain of the "Survey of Western Palestine." Printing takes the large sum of £500, which includes the postage of the *Quarterly Statements* to subscribers. Management is an item which varies little from year to year. Including parcels and postage it amounted last year to £629 6*s.* 5*d.* The proportional table of expenditure is as follows:—

Exploration, nearly	33·21 per cent.
Maps and Memoirs	46·49 ,,
Printing	9·04 ,,
Management	11·26 ,,
	100·00

A considerable sum, about £750, still remains (March 25th) to be paid on account of the Maps and Memoirs, and the Society is further indebted in the amount of a loan of £850, the whole of which it is hoped to pay off before the end of the year.

The Palestine Pilgrims' Text Society have issued their report for the last year, in which it appears that they have now seventy-one members, and have issued two pilgrims' texts, viz., those of Antoninus Martyr and Sancta Paula. That of the Bordeaux Pilgrim is already translated and printed, and only awaits Sir Charles Wilson's notes. The Society has received permission of Count Riant to use the publications of the *Société de l'Orient Latin*. Four more publications may be expected in the course of the year.

The long-promised list of Old and New Testament names, with identifications, references, and notes, is nearly completed. It has been compiled by Mr. George Armstrong from the Bible Dictionary, the lists in Clarke's Bible Atlas, and Captain Conder's lists, and is especially prepared with a view to being a guide to the forthcoming maps covering the east as well as the west of the Jordan.

Professor Hull's book, called "Mount Seir," was issued on January 14th. Subscribers are allowed a reduction on the price, and can obtain it in the usual way, by application to the office, for 7*s.* 6*d.* post free. It contains, besides a popular account of the Expedition, which occupies twenty chapters out of twenty-two, a summary of Scientific Results, and a discussion on some of the more important of the sites visited. There is also appended a Geological Map, and an Appendix containing Major Kitchener's Report, and a paper by Mr. George Armstrong on the Wâdy Arabah. There are twenty-three illustrations from drawings and photographs made by the travellers during their work.

Those who are interested in the welfare of the modern inhabitants of Palestine, will be pleased to hear that the English Langue of the venerable Order of St. John has now established an Ophthalmic Hospital just outside

Jerusalem, where a duly qualified English surgeon, specially skilled in the treatment of the eye, is now resident. The local management is vested in a committee of British residents, Associates of the Order of St. John, under the presidency of the Consul, Mr. Noel Temple Moore, C.M.E. The English offices are at the Chancery, St. John's Gate, Clerkenwell.

The income of the Society, from September 26th to December 12th, 1884, inclusive, was—from subscriptions and donations £556 5*s.* 4*d.*, from all sources £703 16*s.* 4*d.* The expenditure during the same period was £728 6*s.* 1*d.* On March 12th the balance in the Banks was £205 9*s.* 6*d.*

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

The only authorised lecturers for the Society are—

(1) The Rev. Henry Geary, Vicar of St. Thomas's, Portman Square. His lectures are on the following subjects :—
- The Survey of Western Palestine, as illustrating Bible History.
- Palestine East of the Jordan.
- The Jerusalem Excavations.
- A Restoration of Ancient Jerusalem. Illustrated by original photographs shown as "dissolving views."

(2) The Rev. James King, Vicar of St. Mary's, Berwick. His subjects are as follows :—
- The Survey of Western Palestine.
- Jerusalem.
- The Hittites.
- The Moabite Stone and other monuments.

(3) The Rev. James Neil, formerly Incumbent of Christ Church, Jerusalem.

EDEN AND GOLGOTHA.

By General Charles Gordon, R.E.

I.

Position of Eden.

I have formed a theory with respect to the position of Eden. I believe the Greek of the text respecting the parting of the main river of Eden into four other rivers can be read that four rivers united to form one great river.

In Genesis we have one river Euphrates given us: on it was Babylon. We have the Hiddekel, on which was Nineveh (*vide* Daniel), and which is the Tigris; these two unite and come down the Persian Gulf. We need to identify the Pison and Gihon. The Pison is the Nile, its meaning is "overflowing," and it flowed into the Red Sea before the Flood; it is connected with Egypt, which, like Nineveh and Babylon, oppressed Israel. The Blue Nile encompasses Havilah, where there is gold. Havilah was a grandson of Shem, his brothers were Ophir and Sheba, also connected with gold, and with Abyssinia; they went forth by Mesha (? Mecca), they crossed the sea, for Solomon got his gold from Ophir by sea. Where is the Gihon? There is the Brook Gihon south of Jerusalem, the Valley of Hinnom, where idolatrous practices went on; it therefore is also a spot whence Israel was oppressed. On this brook is Jerusalem; its flow, when it has any, is to the Dead Sea, its ravine is very deep, and could have been the bed of a river before the Flood. There is the difficulty of finding a ravine from the Dead Sea descending to the Gulf of Akabah through Wâdy Arabah, the Valley of Salt. By report, the watershed or flow of the Valley of Salt is towards the Dead Sea, and not towards the Gulf of Akabah. Is there any other ravine from the Dead Sea to the Red Sea by which the Gihon could meet the Nile in that Red Sea?

Allowing for the moment that the Pison is the Nile, and Gihon is the Brook Gihon, that they flowed into the Red Sea, and through the Gate of the World, Bab el Mandeb, we find by taking off the soundings of the Indian Ocean, that there are two clefts of 1,000 fathoms deep, joining near Socotra, and then going south, gradually deepening till they reach 2,600 fathoms, some 100 or 200 miles west of Seychelles.

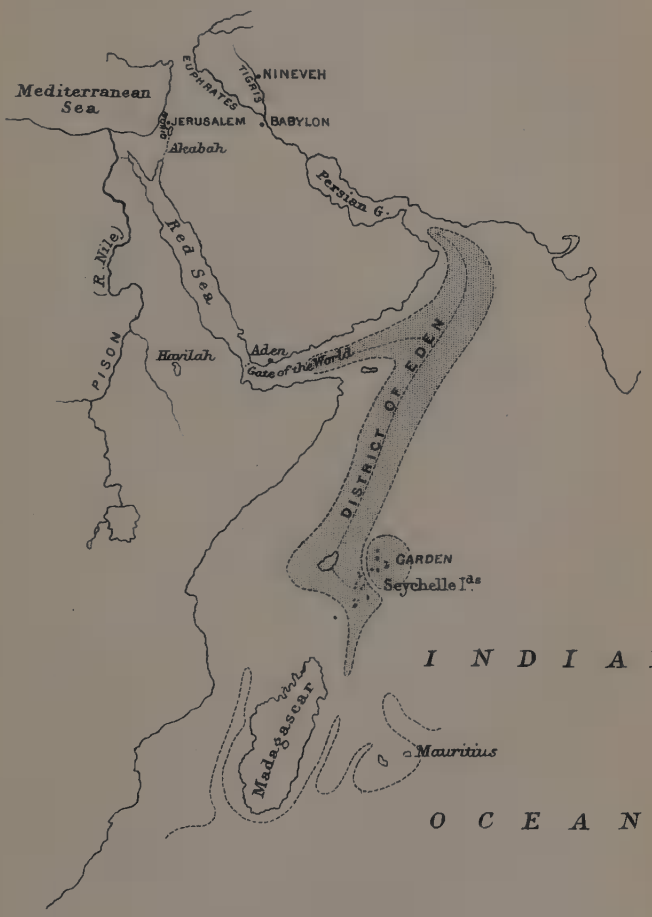
Seychelles is granitic, all other isles are volcanic.

Aden, query Eden.

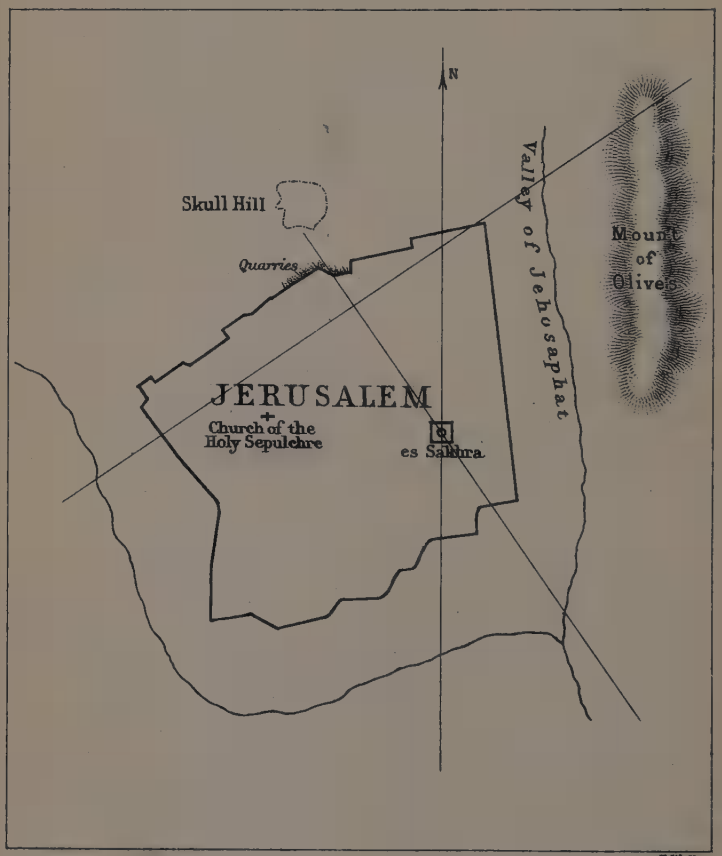
Mussulman tradition places Eden at Ceylon.

I do not go into the question whether or not the Tree of Knowledge is not the *Lodoicea seychellarium*, and the Tree of Life the *Artocarpus incisa*, though for myself I do not doubt it.

I was two years in the neighbourhood of the sources of the Euphrates, Arax, Phasis, &c.; no flood could connect those rivers;—floods do not alter the features of a country with respect to high ranges.


Mediterranean Sea
EUPHRATES
TIGRIS
NINEVEH
JERUSALEM
BABYLON
Akabah
Persian G.
R. Nile
Red Sea
PISON
Harilah
Aden
Gate of the World
DISTRICT OF EDEN
GARDEN
Seychelle Ids
I N D I A N
O C E A N
Madagascar
Mauritius

E. Weller.


N
Skull Hill
Quarries
Valley of Jehosaphat
Mount of Olives
JERUSALEM
Church of the Holy Sepulchre
es Sakhra
E. Weller.

II.

GOLGOTHA.



1. I last wrote to you giving the four rivers of Eden, one of which was the Gihon on which Jerusalem was. I do not know if I then mentioned it was the Tyropœon Valley, which conclusion I came to ere I came to Palestine.

2. *Golgotha.* The morning after my arrival at Jerusalem I went to the Skull Hill, and felt convinced that it must be north of the Altar. Leviticus i, 11, says that the victims are to be slain on the side of the Altar northwards (literally to be slain slantwise or askew on the north of the Altar); if a particular direction was given by God about where the types were to be slain, it is a sure deduction that the prototype would be slain in some position as to the Altar: this the Skull Hill fulfils. With reference to the word "askew" or "aslant," we have the verse "all the day long have I stretched out my arms to a rebellious people" (Isa. lxv, 2). Draw a line from the centre of the Sakhra to the centre of the Skull; draw a perpendicular to this line, at centre of skull; a cross on that line will embrace all the city and Mount of Olives, and be askew to the Altar.

The Latin Holy Sepulchre is west of the Altar, and therefore, unless the types are wrong, it should never have been taken as the site.

I pass by the fact of the tradition of Beth hat Selzileh, of the precipice, of the tradition of its being the place Jeremiah wrote the Lamentations (which describes the scenes enacted there nearly 600 years afterwards, "Is it nothing to thee, all ye that pass by" (Lam. i, 12), &c., or the particularly suitable entourage of the place, for these things may be fanciful. I also will not hold to the fact that in the twelfth century St. Stephen's Church was at the Damascus Gate, outside, and St. Stephen was stoned nine months after our Lord's Crucifixion, and that it is unlikely that the Jews would have had two places of execution in nine months.

2. And I will come to the more fanciful view, that the mention of the place of Skull in each four gospels is a call to attention. Wherever a mention of any particular is made frequently, we may rely there is something in it; if the skull is mentioned four times, one naturally looks

for the body, and if you take Warren's or others' contours with the earth or rubbish removed showing the natural state of the land, you cannot help seeing that there is a body, that Schick's conduit is the œsophagus, that the quarries are the chest, and if you are venturesome you will carry out the analogy further. You find also the verse (Ps. xlviii), "Zion, on the sides of the north;" the word "pleura," same as they pierced His *pleura*, and there came blood and water, God took a *pleuron* from the side of Adam, and made woman. Now the Church of Christ is made up of, or came from, His *pleura*, the stones of the Temple came from the quarries, from chest of figure, and so on; so that fixed the figure of body to the skull.

3. Then by Josephus's account, as I read it, the Tower Psephinus was on the rocky point opposite the skull. Titus had his headquarters at the slaughter-house, 2 furlongs from the wall, viz., 300 to 400 yards, near the *corner* (note that corner, for it is alluded to in the 400 cubits broken down by Jehoash, king of Israel), and my placing of the walls and reading of Josephus would make his point of attack just where Schick's conduit enters the city east of Damascus Gate, or at the cisterns to east, where I think Agrippa's wall began. Mystically, the Roman Eagle should have gone at the Lamb of Zion by the throat, viz., Schick's conduit. However, I will not continue this, for if you please you can get the papers and plans from my brother. I would do them for you if you wish; I did them for Chaplin long ago. The camp of the Assyrians is the place where Nebuchadnezzar camped a month *after the fall of the city*, when he came to *burn the Temple;* it is this day which the Jews keep as the fast, not the day of *taking the city*.

3. Naturally, after discerning *the figure*, the question arose of Mount Zion, and of the boundaries; by studying the latter with the Septuagint there seemed no reason *by Scripture* to consider Ain Haud the *Enshemesh*. Septuagint has Beth Samos, and near Jebel el Tell is Kh. el Sama. Again, Gihon (being the Tyropœon) is to gush forth, and as the skull is the Altar, it is thence the two rivers, one to the Dead Sea, the other to the Mediterranean, are to come. At last Moses's blessing to Benjamin came in, "he shall rest between His arms," not his shoulders; so thus I brought the boundary up Gihon to Kh. el Sama.

4. Other reasons came to back this view,—

Nehemiah mentions town of Furnaces.
He also mentions throne of *Governor*.
Josephus mentions women's towers.

The word "furnace" is derived from *fornex*, thence the connection. The tent Cozbi and Zimri went into was a *furnace*. Josiah broke down the high places built by Manasseh near the Gate of *Governor*, which were, no doubt, these same *furnaces*. Herodias lived at Jaffa Gate, and even to this day there are *furnaces* there I should think, for the troops are there.

This led to looking up the history of the Levites, &c., in Judges, of Gibeon, of mouldy bread, Nob, Gibeah of Saul, &c., and the result is as

I have just noted, according to my ideas; but it is a matter of perfect indifference to us all, for these sites are in each of us.

During these studies, the potters' field comes up, and also the pool where Abner and Joab met, the field of the treacherous ones, and my idea is that round about the Serpent's Pool is the Tophet, Aceldama, Potters' field; that down the Valley of Hinnom is the Perez of David.

I will not bore you much longer than to say that, by my ideas,

Kuryet el Eneb is
- Kirjath-jearim
- Ramathaim-Zophim
- Armathaim
- Ramah, one of them
- Place of Saul's anointing
- Arimathæa
- Emmaus

and that Samuel was sacrificing to the Ark when Saul came to him.

Schick has been writing on these subjects for years, and he plaintively says, "but how *am I* possibly to advance other views now?" In reality, in writing on these sites, no man ought to draw any cheques on his imagination; he ought to keep to the simple fact, and not prophesy or fill up gaps. If one wrote under cognomen α, and altered under cognomen β it would be all right; as it is now, a man under his own name cannot go right about face all at once. The Ark was built at Abu Shusheh by Noah, and floated up to Baris; only in A.D. 776 was it placed on Ararat, which is "*holy land*." God said, "Go to a mountain I will shew thee," a mountain already consecrated by the resting place of the Ark. Noah offered on the rock his sacrifice. Look at Genesis and you will see (Gen. xi, 1), after the Flood they journeyed *eastward* to Shinar; you might go eastward from either Ararat or El Judi near Jesereb ebn Omar for ever before you reached Shinar. I will not bore you any longer, except to say that I think there are not many places far apart of interest in the Scripture way, and that these few are—

1. Nazareth and region of Tiberias.
2. Plain of Esdraelon.
3. Shechem.
4. Bethel.
5. Jerusalem.
6. Bethlehem
7. Hebron.
8. Kuryet el Eneb, Philistia.
9. Jericho, Gilgal, Ammon and Moab, Dead Sea, Valley of Arabah.

C. G.

EXPLORATIONS NORTH-EAST OF LAKE TIBERIAS, AND IN JAULAN.

By Laurence Oliphant.

Haifa, 30*th January*.

The examination of the country to the east of the Jordan is, under existing conditions, attended with so much difficulty that I was glad to seize an opportunity which offered a few weeks ago to pay a visit to the northern and eastern shores of the Lake of Tiberias, and penetrate a short distance into Jaulan, with the view of visiting certain localities, where I had reason to believe that some ruins existed which had hitherto escaped observation. I was unfortunately prevented by circumstances from devoting to them the time and labour which they deserved, and was compelled, in more than one instance, to hurry past places where it would have been interesting to linger, with the mental reservation that I would endeavour to return, at some future time, for a more detailed examination.

I commenced my investigations immediately on crossing the Jordan, at the point of its debouchure into the lake. Here, at a distance of half a mile east from its mouth, are situated the ruins of El Araj, which consists of foundations of old walls, and blocks of basaltic stone, cut and uncut, which have been used for building purposes. The ruins cover a limited area. A little over a mile north of El Araj there rises from the fertile plain of El Batîhah a mound strewn with blocks of stone, and remains which cover a considerable area. This is Et Tell, a spot which it has been sought by more than one traveller to identify with Bethsaida Julias. I will not here enter into the much vexed question of whether there were two Bethsaidas, as insisted upon by Reland and many others, or only one; or whether "the desert place apart," upon which was performed the miracle of the five loaves and the two fishes, was on a desolate spur of the range immediately to the north of this Tell, which would necessitate two Bethsaidas, or whether it was not, as Dr. Thomson supposes, at the north-east corner of the Lake on the shoulder overhanging Mesadiyeh, upon which assumption he constructs a theory which would involve only one; or whether, as suggested by Captain Conder, the Sinaitic Manuscript is right in omitting the definition (Luke ix, 10) of the desert where the 5,000 were fed, as "belonging to the city called Bethsaida," in which case the necessity for a second city of that name ceases to exist, and the miracle may have been performed in the plain at the south-east of the Lake. It is possible that excavations at Et Tell might enable us to decide positively whether it is the site of Bethsaida Julias, which we know was in this vicinity. A small native village has been built among the ruins, which do not at present afford to the passing traveller any indications of former magnificence; but I was unable at the time to examine them, as I was desirous of pushing on without delay to a spot where I was informed by a Bedouin sheikh who accompanied me from Araj that the fellahîn, in the course of getting out stone for constructing a small village last summer, had laid

bare some stones on which were carvings and pictorial representations. After following the course of the Jordan, on its east bank, for another mile, we reached a spot on the barren slope of a hill a few hundred yards from the river, where some native huts had been recently built, and where large cut stones, carved cornices, capitals, and fragments of columns were strewn in profusion, while from the midst of them rose the walls of what appears to have been a synagogue ; owing, however, to a later superstructure having evidently been reared upon the original foundation, I feel somewhat diffident in pronouncing upon this point decidedly. I will, however, state my reasons for coming to this conclusion, while the accompanying sketches of the ornamentation I found here may enable others more competent to form an opinion than myself to judge of their origin. The dimensions and ground plan of the building with the columns still *in situ* closely resembled those of the small synagogue at Kefr Birim. The length was 45 feet, the breadth 33 feet. The building had an east and west orientation, and the door was in the centre of the wall on the western side. This does not, so far as I know, occur in the case of any synagogue hitherto found, but it was doubtless due to the necessities of the case, as the site for the building was excavated from the hill-side, the floor at the east end being about 9 feet below the surface of the earth at the back of the wall, while the slope of the hill would have made it inconvenient to place the door, as usual, on the south side. A more serious objection to this being a synagogue lies in the fact that the stones were set in mortar, which does not occur in the case of other synagogues ; but there were indications to show that these walls had been erected upon older foundations. They were now standing to a height of 8 feet. There were no door-posts or lintel to the entrance. The floor, which was thickly strewn with building stones, fragments of columns, and of carved cornices and capitals, was below the level of the ground, and was reached by a descent of two steps, while opposite, running along the whole length of the eastern side, were two benches or steps, the face of the upper one decorated with a thin scroll of ornamental tracery ; these may have served for seats. The depressed floor and stone benches are both features which occur in the synagogue at Irbid. Upon the upper bench stood the fragments of two columns about 4 feet in

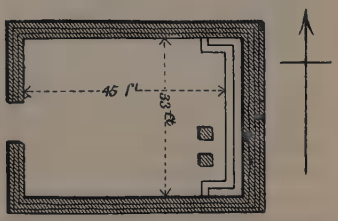




Fig. 4.

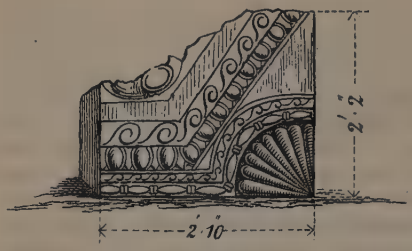


FIG. 5.

height, and 1 foot 2 inches in diameter. They were evidently not *in situ*, being without pedestals, and I can only account for their being in their present position by the supposition that they had been placed there recently. The other two appeared to be *in situ*, but their bases were much hidden by the blocks of stone heaped on the floor. These blocks averaged 2 feet 6 inches by 18 inches. The capitals of the columns were in Corinthian style, 2 feet 3 inches in height, and consisted of a double row of leaves, which differed somewhat from the usual acanthus, apparently of a later or more composite order. The ornamentation and character of the niches (see figs. 4 and 5) so closely resembled those found at the synagogue at Kerazeh and elsewhere, being of the same florid and somewhat debased type, that they seemed to me to set at rest the question of the original character of this building, though it may subsequently have been diverted to other uses. Time did not allow me to do more than make rough drawings of the architecture, but I trust they are sufficient to enable a comparison to be made between them and the engravings in the "Memoirs." If I am right in my conjecture, this synagogue would probably date from about the second century of the Christian era. I also found a stone which consisted of the upper portion of two small semi-attached fluted columns with Doric capitals, almost exactly similar to the one found at Irbid. Also one cut into a round arch, which may have been placed over the lintel on the plan of the arch on the lintel over the entrance to the great synagogue at Kefr Birim. It measured 39 inches across the base of the arch (fig. 1). A most interesting object was a winged female figure, holding what was apparently a sheaf (fig. 2). The ornamentation of the cornice does not resemble any which I have observed either in the "Memoirs" or elsewhere, and is not unlike the so-called egg and dart pattern (fig. 3). Other specimens of the ornamentation are seen in fig. 7. I have

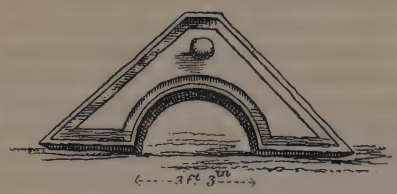


FIG. 1.

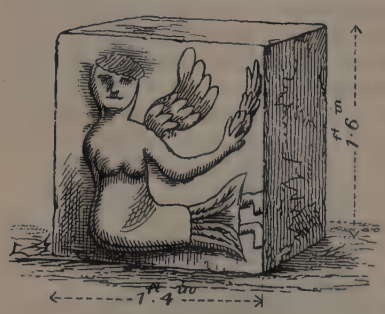


FIG. 2.

not been able to form any conjecture which should identify this most interesting spot with any Biblical or historical locality. Its modern name is Ed-Dikkih, meaning platform, a name not inappropriate to its position. It is possible that during the next dry season the natives may continue their excavations, as stones are needed. I have urgently impressed upon them not to deface or destroy any remains that may be unearthed; but they unfortunately watched my proceedings with an uneasiness and suspicion which I am afraid a gratuity failed altogether to dispel.

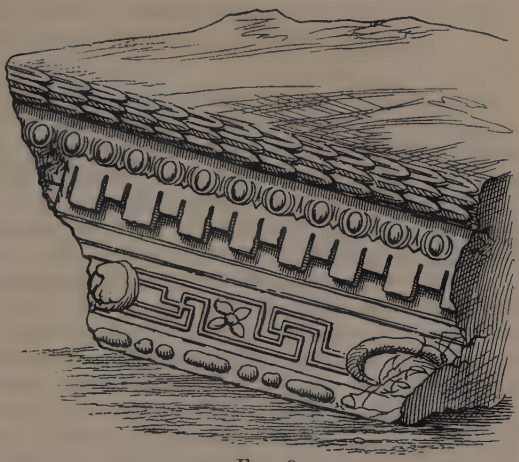


FIG. 3.



FIG. 7.

We now pursued an almost easterly direction along the lower flank of the range which rose abruptly on our left, and in a mile and a half reached a spring and the remains of a small ruin called Umm el Araj. There seemed, however, to have been only two or three houses here, and finding nothing of interest we pushed on, and reached in half a mile more the ruins of Elahseniyeh. Here again I was fortunate in coming upon remains which have been exposed to view for the first time by the natives this year.

The portion excavated was not so extensive, nor did it reveal so much that was interesting, as Ed-Dikkih, but the area covered with old ruin was greater, and it was in ancient times probably the centre of a larger population. The character of the remains now exposed to view is very difficult to determine, owing to the confusion which has been created by their representing two periods, the building of the later having apparently been placed diagonally on the one that preceded it. They were situated upon a terrace of solid masonry about 5 feet high, now strewn with building stones. The upper or more recent chamber measured 20 feet across one way, but there was nothing to determine its length, no walls having been left standing; the dimension in one direction, however, could be gathered from the cement floor which still remained, a considerable portion of which was visible at a depth of 18 inches below the surface

of the earth. There appeared, 18 inches below it, a floor of solid stone, and this was evidently a portion of a building of some size, to judge from the blocks of stone which apparently were the foundations for the pedestals of columns. These consisted of five cubes of stone, each 2 feet every way, and 6 feet apart. As the stone floor on which they stood was 3 feet below the surface of the ground, the upper surface was 1 foot below it, and there may therefore have been more in continuation of the line in which they were, which the excavations of the villagers had not revealed. They ran north and south, and diagonally to the upper flooring of cement. There were some fragments of columns, pedestals, and carved cornices and capitals lying among the ruins of the vicinity, but they were much broken, and not sufficiently noteworthy to stop to sketch.

I had, unfortunately, no time to carry out my original intention of following up the Wâdy Ed Dâlieh, two miles higher to Elyahudiyeh, where ruins are reported to exist, but I was assured by the sheikh that they contained no remains such as I had seen at Ed-Dikkih and Elah-seniyeh, so I crossed the plain back to the coast where the ruins of Mesadiyeh still remain to suggest that the similarity of their name to that of Bethsaida may furnish a clue to the identification with them of that town. They contain nothing of interest however, without excavation ; but enough remains to show that the head of the Lake must in old times have been a great centre of population, since the towns near it are all from one to two miles apart, and I have heard of more ruins in the neighbourhood, which I hope at some future time to have an opportunity of examining.

As some confusion exists in all the maps to which I have had any access in the nomenclature of the five wâdies which intersect the country between the Jordan and the Wâdy es Samak, I have been very particular in obtaining the names as accurately as I could from the best native sources. Of these the Wâdy Jeramâya is the most wild and inaccessible, and except for the sportsman—it affords excellent cover for the large game which are said to abound in it—would probably not repay examination ; the same cannot be said of the other wâdies, in which, especially near their heads, I have reason to believe some ruins are to be found.

Following the Lake shore, we passed at the mouth of the Wâdy Ejgayif the ruins of Akib ; these consist of nothing but heaps of basaltic stones. There is near here a spot marked "ruins" in some maps, and called Dukah ; they are also mentioned by more than one traveller. I found on inquiry, however, that a projecting cliff near 'Akib was called the Dukah Kefr 'Akib, or the precipice of 'Akib, and this has doubtless given rise to the confusion. A mile and a half beyond 'Akib we turned up the great wâdy of Es Samak. It is up this fertile valley, watered by a perennial stream, and which is in places two miles wide, and about seven miles in its greatest length, that it is proposed to carry the projected railway from Haifa to Damascus, as it affords an easy gradient from the depressed shores of Lake Tiberias to the elevated plateau of Jaulan ; the rise in that distance being a little over 2,000 feet. As we ascend, I observe that only quite the lower strata are of limestone ; all the rest is basaltic, and this formation is of vast

thickness. The whole of Jaulan is indeed an immense volcanic field, consisting of irregular heaps of amorphous lava and disintegrating scoriæ, with mounds of globular basalt.

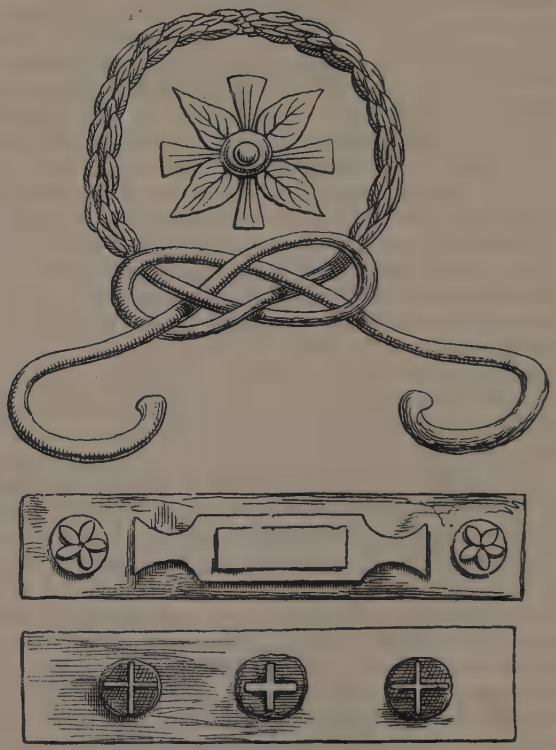
After ascending the wâdy for three miles we reached, a little below the margin of the plateau on the right side, the ruins of El 'Adeseh, but it happened to be so dark at the time that I could not distinguish more than heaps of stones, and I had no opportunity of returning to it.

The country is very sparsely peopled in the district of Jaulan in which we now were, one of the largest villages being that of El 'Al, built on the site of an ancient ruin ; but the place has been so much built over that little can be seen, though in the walls and yards of the houses are many vestiges of antiquity. In the stable of the house in which I lodged was a column *in situ* standing to a height of 6 feet, and in the yard a draped female statue, life size, in three pieces. The feet, which as far as I could judge were on a pedestal *in situ*, were partially covered with earth ; the rest of the figure, which had been separated from them at the ancles, was lying on the ground ; the head had also been separated from the body ; but each of the pieces was in good preservation. The left arm clasped what appeared to be a quiver, from which I gathered that the statue was one to Diana. An inscription would probably be found on the pedestal settling this question, but circumstances prevented my excavating sufficiently to find out whether this was the case.

My objective point was now Khisfin, a village lying five miles distant in a north-easterly direction, which has played so important a part in the history of the country that I was extremely anxious to investigate the ruins which exist there, and which have never been the subject of examination. After riding for an hour we came to the ruins of Nab, situated on a small mound. They consist of blocks of basalt building stone, some traces of foundations, some fragments of columns and capitals, and a tank, dry at the time of my visit, but which evidently holds water for some portion of the year ; it had apparently been much deeper at a former period, only the two upper courses of masonry being now visible. It was oval in shape, and measured about 60 yards by 30. A little off the road to the right stands a large tree on a mound which is a conspicuous object on the vast plain, and is called Ez Zeitîmi, or the hill of the olive-tree. In half-an-hour more we reached Khisfin, which is a large village for this part of the country, the houses constructed entirely of the hewn stones which here cover a greater area than any ruins which I have hitherto visited in this neighbourhood.

The earliest notice which I have been able to obtain of Khisfin is that of Yakubi, about 900 A.D. He mentions it as one of the chief towns of "the Province of the Jordan," Syria being divided in his day into three provinces, viz. : the Province of Damascus, the Province of the Jordan, and the Province of Palestine. Yakub in the thirteenth century mentions it as a town of the Hauran district below Nawa, on the Damascus road, between Nawa and the Jordan. Khisfin was doubtless at one time a fortress of the Saracens, as it is further mentioned as the place to which Al Melek

al 'Adil (Saladin's son and successor) fled after having been routed at the battle of Baisân by the Crusaders, who advanced upon him from Acre. As it is mentioned as being one of the chief towns of the province so long ago as 900 A.D., it is probable that its importance dates from a much older period, as indeed was indicated by some of the ornamentation which I found there. That it must also have been an important crusading stronghold is evident from the leading characteristics of the remains, as they now appear, and of the ornamentation, of which I give specimen sketches.



The walls of the principal fort now standing measure 68 yards one way, by 54 the other. They are 9 feet in thickness, and are eight courses of stone in height, the stones from 1 foot to 1 foot 6 inches square, but some are much larger. Within the fort are the traces of a second or inner wall forming a sort of keep in the centre, but the whole area is so encumbered with ruin that it would require more time than I was able to give to it to make accurate measurements, or a plan of the building. The village had almost the appearance of a quarry, so thickly piled were the blocks of hewn stone which enclosed the courtyards and formed the walls of the houses, while they were strewn thickly or stacked in heaps over all the neigh-

ouring fields. The lintels of the doors consisted frequently of large stones, some of which possibly had served the same purpose in old times, on which were tablets, rosettes, crosses, bosses, and other crusading devices.

I now proceeded in a westerly direction, and in two miles reached the ruins of Esfera, a mound covered with the usual hewn basaltic stones, and with traces of foundations. Two miles further on was the conspicuous hill of Tell el Muntar, which is also strewn with ruins of the same character; but at neither place were the remains of any marked interest;—they all indicated, however, the presence in ancient times of a large population in this section of country. Just to the south of Tell el Muntar we came upon a dolmen field—I counted twenty grouped in a comparatively limited area, averaging perhaps a hundred yards apart. Some were composed of three side stones with a covering slab, and in most cases were "free standing." In others the superincumbent slab rested upon four uprights, and in others upon heaps of large blocks of stone. In no case did I observe the covering slabs to be so large as I have seen them elsewhere, probably owing to the weight of the basalt of which they were composed; but circumstances prevented my giving these interesting monuments upon this occasion the attention they deserved, and I was compelled to be satisfied with having discovered their locality. In support of Captain Conder's theory it may be interesting to note that they were situated near water, as I shall presently show, and upon the verge of the precipitous ledge of rock which here forms the eastern cliff of one of the branches of the Wâdy es Samak, from which a magnificent view is obtained. The plateau here forms a promontory which splits the wâdy, and at its southern extremity is situated the old stronghold of the Crusaders, called the Kasr Berdauif, or Baldwin's Castle. I saw the ruin from a distance, but was unable to visit it on this occasion. This I the less regretted as it has already been examined, and the small crumbling ruin which remains offers nothing of interest. On the other hand, I was impatient to reach a ruin hitherto unknown, and which was situated directly beneath the upper ledge of rocky cliff down which we were now leading our horses at no little peril to life and limb. After descending abruptly about 500 feet we came to a broad shelf, or small cultivated plateau, beyond the edge of which there was another steep descent to the bottom of the wâdy. It was upon this shelf that the ruins of Umm el Kanatar, or the "Place of Arches," is situated. It may have derived its name from the first object which met our view, as, turning sharp to the right under the impending cliff down which we had just descended, we came upon a most singular and most picturesque spot. Here were two large arches, one partially ruined, but the traces of which were still plainly visible projecting from the rock against which it had been built, the other in a perfect state of preservation. This one measured 23 feet in breadth, 6 feet 6 inches in depth, and 16 feet in height. The ruined one was probably of the same dimensions, but as it was partially broken away there was no means of accurately judging of it. They had been built over a crystal spring, the waters of which still filled the small tank 23 feet long and 6 feet wide, with a depth of 2 feet of water, under the perfect arch, and

contained many small fish. It apparently escaped by an underground channel. Over the centre of the arch was a large slab of stone, upon which had been an inscription now too effaced to be legible, and as it was 16 feet over head I had no means of examining it closely. At a slab at the side of the spring was a stone on which was the carved figure of a lion (fig. 1), and in front the wide-spreading arms of a magnificent old tree offered a grateful shade. At the time of year at which I visited these springs, however, I was not in a position to appreciate its charms ; a bitterly cold wind, accompanied by sleet, was blowing, and I had just before arriving at the dolmen field undergone an experience which made the task of a minute examination of ruins or dolmens in an easterly gale of wind unpleasant in the highest degree. When allowing my horse to drink at what seemed a puddle on the plateau, he had made a step forward and plunged head foremost down what turned out to be an overflowed well, with me on his back. We had some difficulty in extricating ourselves, but the severity of the cold wind was so much intensified by my drenched condition, that, not being in my good health otherwise at the time, I was compelled to hurry over these ruins. They are situated about fifty yards from the spring to the north, and consist of ruined walls enclosing an area apparently as nearly as possible of the same dimensions as the synagogue at Ed-Dikkih, but the traces of the western wall were concealed by such piles of large blocks of building stones that it was impossible to determine them. The southern wall was standing to a height of about 7 feet, and consisted of three courses of stone averaging a little over 2 feet each in

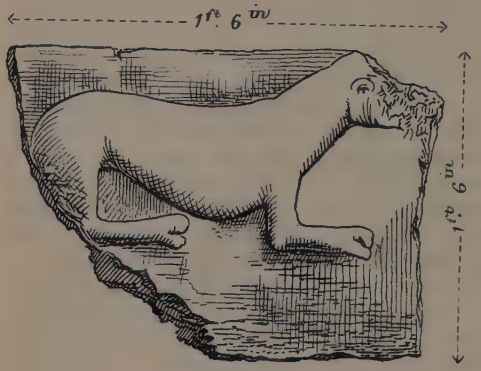


Fig. 1.

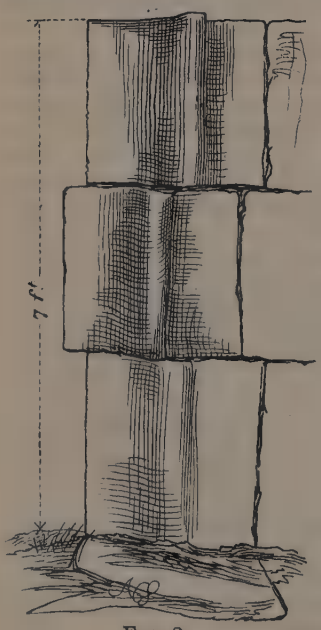


Fig. 2.

height, by about 2 feet 6 inches in breadth. The door was situated 15 feet from the south-east angle of the wall, and was 4 feet 9 inches in width; the stones forming the door-post were slightly carved into a plain moulding (fig. 2). On entering, the area presented a mass of stone *débris*, and columns, and pieces of carving, tossed about in the wildest confusion; six columns from 10 to 12 feet in height rose above the piles of stone at every angle, as though they had been partially overturned by an earthquake; the shaken condition of one of the stones which formed the door-post, and which projected from the others, as well as the general aspect of such of the ruin as was still standing, confirmed my impression that the building had been destroyed by a convulsion of nature. It was difficult under the circumstances to determine the true position of the columns, or the exact plan of the building; but the character of the fragments of ornamentation which still remained, the fact that the columns were all within the enclosure of the building, that the walls were without cement, the position of the door, and the moulding of the door-posts, all rather lead me to the same conclusion with respect to this building which I have arrived at in the case of Ed-Dikkih, and to regard it as having been formerly a synagogue. There was one stone on which was carved the representation of an eagle (fig. 3), a fragment of egg and dart cornice, closely resembling the one at Ed-Dikkih, a large triangular slab cut in the shape of an arch and highly ornamented, measuring 3 feet 6 inches along the base line, and 5 feet 8 inches between the two extremities, and which I assume to have been placed on the lintel of the main entrance (fig. 4); and there were fragments of Corinthian capitals.

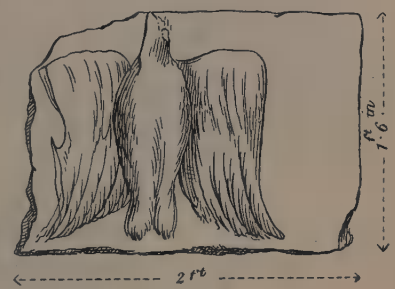


FIG. 3.

It is highly probable that a careful investigation of these stones would reveal inscriptions which would throw more light on this interesting ruin than, during my hurried inspection of them, I was in a position to obtain. I send these notes simply as a description of what I was able to observe, under circumstances by no means favourable to minute investigation; but it is not impossible that I may be able to revisit this part of the country and supplement this paper with more details of the ruins which are noticed in it, as well as

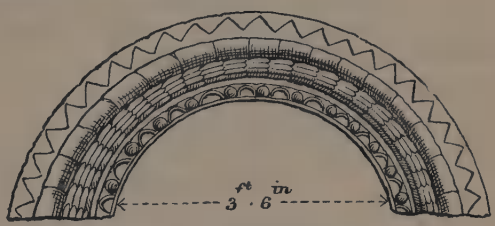
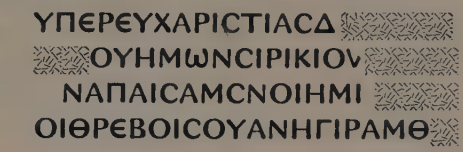


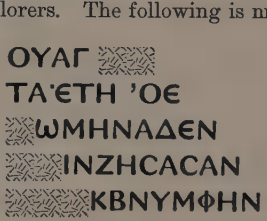
FIG. 4.

to look for others of the position of which I have received some information.

On my return to Tiberias, a Jew came to tell me that he knew a house which contained a stone upon which there was an inscription. I found it in the floor of a tumble-down dwelling inhabited by an old Jewish woman. As it was too begrimed with dirt to make anything of, I tempted the old woman with a bribe to let me take it up and carry it off, promising to return it. The inscription turned out to be in Greek characters, and as it may have escaped the attention of former travellers, a squeeze of it is forwarded herewith. I also annex the best copy I have been able to make, in case the squeeze does not arrive in good condition.



I was also taken by a Jew to look at a stone built into the back wall of the synagogue, on which was an inscription. He told me that he had seen some gentlemen take a squeeze of this, and I therefore only took a hasty copy, thinking it probable that it would be found in the "Memoirs." As however, this is not the case, I presume it must have attracted the notice of some more recent explorers. The following is my copy :—



I am indebted to my companion, Mr. Guy Le Strange, for the list of the Arab names, which I append, of the places taken down from the natives on this trip, with their significations.

LIST OF NAMES OF PLACES.

1. El-'Adesi, for El-'Adeseh, العدسه, "the lentil."

In Palestine, concrete of small pebbles used for floors, from its resembling lentils, is known as "El-'Adesi."

2. El-Ahsâninyeh, the vulgar form of El-hassâniyyeh, الحسانية, "Belonging to Hassân," p.n.

3. 'Ain Esfera, probably for 'Ain Eso-Sfairah, عين الصفيرة, "the whistling spring."

4. El-'Akîb, العقيب, "the term."

5. El 'Âl الاعال, "the high."

6. El-'Araj, الاعرج, "the lame."

7. El Batîhah, البطيحة, "the swamp."

8. Ed-Dikkih, الدكة, "the platform."

9. Kasr Berdawîl, قصر برداويل, "Baldwin's Castle."

10. Kersa, كرسى, (?) "the seat."

11. Khisfîn, خسفين, p.n.

12. Mes'adiyyeh, مصعدية, "the place of ascending."

13. Nâb, ناب, "the eye-tooth."

14. Et-Tell, التل, "the hill."

15. Tell el Montar, تل المنطر, "the hill of the watch-tower.

16. Tell ez-Zeitûnih, تل الزيتونة, "the hill of the olive-tree."

17. Umm el 'Ajâj, ام العجاج, "the place of whirl-winds" or "battles."

18. Umm el Kenâtir, ام القناطر, "the place of arches."

19. Wâdi ed Dâlieh, وادى الدالية, "the gorge of the vine tendril."

20. Wâdi Ejgayif, for Wâdi esh-Shakayyif, وادى الشقيف, "the gorge of the little boulder." Shakayyif, or Shagayyif, for the Bedouins change the dotted K into G, is the diminutive of "Shakîf," meaning a "fragment" or "boulder" in the colloquial dialect.

21. Wâdi Jermâyya, وادى جرماية, p.n.

22. Wâdi es Saffah, وادى الصفاح, "the gorge of the slayer."

23. Wâdi es Samak, وادى السمك, "the fish's valley."

24. Wâdi Shebîb, وادى شبيب, p.n.

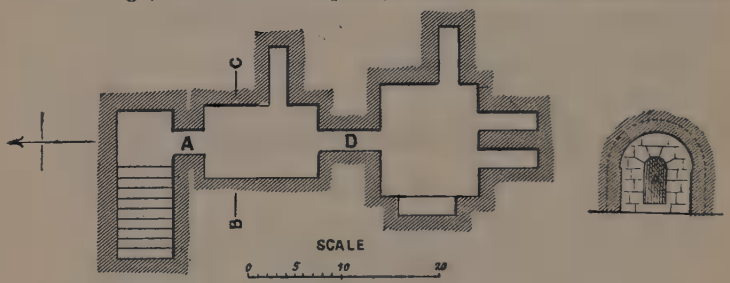
25. El-Yahûdiyyeh, اليهودية, "the place belonging to the Jews."

NOTES ON A TOMB OPENED AT JEBATA, AND ON MONUMENTS FOUND AT NABLOUS.

By Laurence Oliphant.

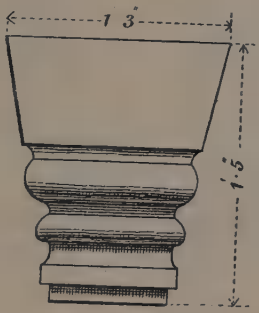
Haifa, 21*st January*, 1885.

Having received intelligence from a native that the villagers of Jebata (Sheet 5, M. *i*) while excavating for stone for their building operations, had unearthed what he termed a subterranean abode, but which I conjectured to be a tomb, I proceeded to that place in order to examine it. The sheikh and most of the villagers accompanied me to the spot; here they had laid bare a flight of nine stone steps leading down to an open court about 6 feet square—the niches formed of cemented masonry, the stones averaging 2 feet by 18 inches, but in some instances exceeding those dimensions. The height from the *débris* which had accumulated on the floor to the top of the masonry was about 11 feet, above which were 2 feet of soil. From this open court a passage 3 feet long, 2 feet 6 inches wide, and 5 feet high, marked A in the plan (Section BC), led to a chamber 14 feet



long, 8 feet broad, and 8 feet 6 inches high, the walls consisting of plain chiselled stones set with mortar in courses of from 2 feet to 2 feet 6 inches in height. This chamber differs from the very few hitherto discovered in Palestine, and which seem confined to Galilee, in that the stones are set in mortar. On the left of the chamber was a single koka, which had been a good deal destroyed by the recent excavations of the villagers, but the chamber itself was in perfect order, and in fact in such good condition that it was difficult to realise that it was an ancient construction. The roof was vaulted, and of solid masonry. In the centre of the east wall was an entrance, D, exactly corresponding to the one marked A, excepting that the passage was 7 feet 6 inches in length. It led into a chamber hewn out of the solid rock, 12 feet by 10 feet 6 inches and 6 feet 6 inches in height; this contained three kokim and a loculus under an arcosolium, but the side of the loculus, as well as those of the kokim, had been much injured. The villagers told us that they had found bones in the loculus, and some fragments of pottery in this chamber. Not far from these tombs was another similar excavation, the entrance to which presented the appearance of that to an ordinary cave; but on entering it we found ourselves in

a small circular rock-hewn chamber, the floor so covered with rubble that it was not possible to stand upright. In the centre of the roof was an aperture 18 inches square, carefully hewn, and from it led a passage of masonry, the stones, also set in mortar, 2 feet 6 inches broad, and about 5 feet to the point where it was completely choked with earth ; had we been able to spare the time to excavate we should have found probably that it led into a tomb. The entrance to this passage was almost completely blocked by the handsome capital of an Ionic column, the column itself 18 inches in diameter. On further examining the stones strewn in the vicinity, and some of which we were told by the natives they had unearthed, we found one on which was carved a seven-branched candlestick, one which may have served as a keystone, a sarcophagus, several fragments of columns, and a monolith standing 10 feet from the *débris* at its base, with grooves and lots similar to others which I have seen at Dubil on Carmel, but taller. I can only imagine it to have formed part of some olive-pressing machinery. In the neighbouring rocks were vats and winepresses. It is not unlikely



that next summer the natives will undertake further quarrying operations, when new discoveries may be brought to light, the more especially as all the existing indications go to show that Jebata, the ancient Gabatha, must formerly have been a place of some importance.

I have been fortunate in obtaining a glimpse of some monuments recently discovered during some municipal improvements now in progress at Nablous, which are destined for the Museum at Constantinople, and of which I send you such hurried and imperfect sketches as I was able to take, with copies of inscriptions. They were in such positions that it was extremely difficult to take squeezes, nor were the conditions propitious for my doing so. The one which I forward was of an inscription much defaced, on which I can only make out the words ΤΟΝ ΤΡΙΠΟΔ, but perhaps others may be more successful. Many of the letters in the other inscriptions were so much effaced as to be rendered doubtful, and I have left them imperfect ; but it will not be difficult, with more time than I have been able to give to them, to make the necessary corrections. The monuments which I have seen consist of two statues, one of a draped male

figure, life size ; the head, right arm, and feet were missing. The other was a smaller draped male figure, the head and feet of which were also missing. The most interesting object was a triangular pedestal, 40 inches high, with slightly curved sides 22 inches long, and squared angles 8 inches across. The three sides contained six tableaux *in basso relievo*, one of them a good deal mutilated, representing, amongst others, incidents in the life and labours of Hercules, in whose honour possibly the statue which once stood upon the pedestal was erected. The first tableau represents a figure in a





chariot struggling apparently with a hydra. Above this, on the upper moulding of the cornice, was the inscription (marked A)—

ΝΙΟΣΘΗΚΕΝΑΤΘΙΔΟΣΕΚ ΣΑΣ
ΝΕΚΕΝΕΝΤΘΥΠΟΛΕΣΣΙΝΑΡΙΣ ΣΚΕΝΑΠΑΣΙΝ

Below this (marked B) was the following :—

ΚΑΛΛΕΙΚΛΙΜΕΙΓΘΤΙ- -ΚΑΙΧΑΡΙΣΙΝΠΕΟΦΕΡΟΝ

and below this (C)—

ΤΟΥΙΩΓ·ΚΑΙ·ΛΓΟΝΙΓΟ·Ι- -ΛΙΑΜΕΤΑΙ·ΚΑΙ ΙΗΘΕΝ

The lower section represented three draped figures standing : on their right a nude male figure standing ; at their feet a prostrate nude male figure ; above them was the inscription (D)—

ΤΟΝΑΧΕΛΩΟΝ

The upper section of the next side represented Leto Apollo and Artemis, with their names above them in the following order:—

ΑΡΤΕΜΙΣ	ΑΠΟΛΛΩΝ	ΛΗΤΩ
Nude to the waist.	Nude right arm over Artemis's shoulder, with a cloak hanging down his back and over his arm.	Completely draped, with a snake apparently on the left.

The lower section of this side represented five figures, behind a group of four figures, of whom two were naked men wrestling, the other two were naked, one standing with outstretched arm, and one on a sort of stool; above them the inscription. partly illegible,—

ΤΑ▒▒ ΡΙΤΟΝΜΕ

and over some of the figures were the letters, ΝΩΤ ΙΥΡΟ

On the third side, which I had no opportunity of sketching, on the upper section, under the words ΤΡΟΦΟΙ ΗΡΑΚΛΗΣ, was a nude infant struggling with a serpent between two draped female figures—evidently Hercules strangling the serpents sent against him by Hera. On the lower section of this side, and under the words ΘΗΣΕΥΣ ΓΝΩΡΙΣΜΑΤΑ, was a much defaced nude figure on the left, supporting what seemed to be a full sack, and on the right three draped figures.

I understand that they are continuing to find objects of interest at Nablous, which I trust shortly to have an opportunity of going to examine.

THE PASSAGE OF THE ISRAELITES ACROSS THE RED SEA.

By Sir John Coode.

The *Quarterly Statement* for April of last year contained an interesting article by Professor Hull, of Dublin, on "The Relations of Land and Sea in the Isthmus of Suez at the time of the Exodus," wherein he deals with the question of the actual position of the passage of the Red Sea by the Children of Israel.

Professor Hull justly remarks that, according to the present position of land and water, there is a direct landway across into the "wilderness of Etham," and he asks whether, if at the time of the Exodus the physical conditions of the district north of Suez had been the same as they are now (of course he disregards for the moment the existence of the Suez Canal), there would have been cause for the cry of despair from the Israelites, or

the necessity for a stupendous miracle of deliverance such as the Bible narrative relates!

He then proceeds to show that the beds of sand and gravel containing shells, corals, and other marine forms now existing in the waters of the Gulf of Suez (which beds are found on either side of that gulf up to at least 200 feet above the present sea-level) form complete evidence of the elevation of the whole land area of that particular region, but that this elevation must have taken place at a time long antecedent to that of the Exodus. He points out, what is true, that if at the time of the Exodus an elevation of not more than from 25 feet to 30 feet had remained to be effected, the land now forming the southern part of the Isthmus of Suez would have been submerged by the waters of the Red Sea, and he regards it as in the highest degree probable that as far back as the time "when the Exodus took place the waters of the Red Sea extended northwards up the valley at least as far as the Bitter Lakes, producing a channel 20 to 30 feet in depth, and perhaps a mile in breadth; a terrible barrier to the Israelites, and sufficient to induce a cry of despair from the whole multitude."

Having quite recently traversed the whole Isthmus, making a special examination of the portion between Ismaîlîya and Suez, the following incident, which then occurred, appears to me to be worthy of notice, inasmuch as it is eminently corroborative of Dr. Hull's view.

Whilst engaged with other members of the International Commission upon the investigation of various matters connected with the question of improving the Suez Canal, some of our party landed from time to time, and on one occasion at a point between what is now the north end of the Gulf of Suez and the south of the Bitter Lakes, not, in fact, very far to the north of the bridge of boats by which the pilgrims to and from Mecca cross the Canal.

Desiring to test for myself the character and hardness of the unbroken ground at this point, and at a height of about 12 *or* 15 *feet above sea-level*, the first stroke of a pick turned up, from 3 inches below the surface, a thick cake of a dull white substance which at the moment appeared to be gypsum, and whilst stooping to take it up, I remarked accordingly; but simultaneously, a colleague who was standing at my side exclaimed "Salt." On asking him how it came to pass that he so instantly arrived at this conclusion, he replied that the whole district thereabouts was full of such salt.

When it is explained that this gentleman had the engineering charge of a considerable length of this part of the Suez Canal at the time the work was in course of construction, and consequently had thus acquired an intimate knowledge of this district, and also that on testing the ground at other points thereabouts, I found salt existing below a thin covering of sand at heights considerably above the sea-level, there is ample warrant for saying, as I have done, that the extensive existence of salt in this form and at such a height cannot be regarded otherwise than as a proof that the waters of the Red Sea did at one time extend as far north as the Bitter Lakes; a specimen nearly an inch thick is before me as I write.

Further evidence that, at some time antecedent to the formation of the Suez Canal, the sea extended as far up the Isthmus as the Bitter Lakes, is found in a remarkable sample of salt which was cut from the bottom of the Bitter Lakes by the engineers of the Suez Canal Company before the sea was let in to effect the completion of the water communication between the northern and southern sections of the work. This block of salt, to which my attention was directed by M. de Lesseps, is preserved in the courtyard attached to the offices of the Canal Company at Ismaîlîya; it is fully 7 feet in height, and, according to M. Voisin Bey, who at the time it was taken out acted as the Company's Chief Engineer in Egypt, salt certainly existed to a still greater depth, but to what precise extent is not known.

I may here mention that whilst passing over the 1,500 (English statute) miles from the Strait of Bab-el-Mandeb to Suez, the water of the Red Sea is so far changed by evaporation that samples taken from the surface at Suez have been proved to be nearly 2 parts in 1000 salter than those at Bab-el-Mandeb. It should be borne in mind, moreover, that an exceptionally great amount of evaporation would necessarily take place within such a comparatively shallow inland basin as that of the Bitter Lakes, having its surface swept by the hot dry air of the Arabian Desert, and shut in from the Mediterranean by the high land at Serapeum immediately to the north, or at any rate by the still higher ridge of country at El Guisr. These conditions would obviously contribute to the formation of such a remarkable deposit of salt as is found in the specimen above described.

A peculiar feature in this specimen is the presence of an occasional thin layer of sand, most probably caused during the prevalence of violent southerly winds which from time to time raise the sea-level at Suez nearly 3 feet above that of an ordinary spring tide in calm weather. The strong current to the northward on such occasions would be certain to carry a considerable quantity of sand into the Bitter Lakes, sufficient, it may be assumed, to account for the layers of sand in question.

The facts to which I have here called attention appear to me unquestionably to confirm the view entertained by Professor Hull. Feeling, with him, that according to this view the physical conditions at the time of the Exodus will be brought into harmony with the Bible narrative, and that the difficulty which has hitherto surrounded the subject of the passage of the Israelites through the Red Sea will thus have been to a great extent removed, I have ventured to send you the result of my own recent personal observations in the locality in question.

THE CITY OF DAVID.

By the Rev. W. F. Birch.

"Nil tam difficile est, quin quærendo investigari possiet."—*Ter. H. T.*

So long as knowledge grows from more to more, will thoughtful writers on Jerusalem from time to time change, or at least qualify, their opinions. Mr. Fergusson in 1847 placed Acra west of the Temple, but in 1860 north of it. Surely, until he reverts to his earlier opinion, no one can fairly quote the weight of his name as in favour of the western site, which he has deliberately abandoned for more than twenty years. But if a writer is always to be tied down to what he has once written, and afterwards distinctly repudiated, then I must ask Captain Conder to submit to his own ruling, and to allow me to quote the weight of his own name, in favour of the Ophel site for the City of David, and against his later statements, since in *Quarterly Statement*, 1877, p. 179, he said, "Thus the City of David, in this case, is Ophel."

Another error into which Captain Conder has fallen may also be corrected, as it bears on the position of Zion, and most readers are weary of arguments *pro* and *con*, and so in accepting theories are guided solely by the names of their respective advocates. In the Memoirs ("Jerusalem," p. 93) he says that "Sion has been supposed by Lewin to be identical with the Upper City of Jerusalem." Many will learn with surprise that Lewin was a most determined opponent of the common opinion, that the Upper City was the site of Zion, and actually accentuated his aversion to such an identification by dubbing the Upper City *pseudo-Zion*, *i.e.*, the false or spurious Zion. "Afterwards, in 'Siege of Jerusalem, 1863,' Lewin holds that the names 'Zion' and the 'City of David' were originally applied to the *whole* city of Jerusalem; that the latter was subsequently appropriated by popular belief to that portion of Ophel where he supposes 'David's palace to have stood.' Accordingly, throughout his book, he speaks of the south-west quarter of the city as 'now called Zion,' thereby intimating that it had no ancient right to this special designation; and yet, inconsistently enough, the name of Sion is given to it in his plan."

I am obliged to take this extract from "The Psalms of David" (by E. F.), as I cannot myself refer to "The Siege," since the Fund's copy has been indefinitely borrowed. Some reader of these pages perhaps will kindly correct me if I misrepresent Lewin's opinion, who, as it seems to me, never maintained that Zion was identical with the Upper City.

Whoever assails my theory must inevitably catch a Tartar, for the simple reason that the site I advocate is the very one appropriated (as many admit) to Zion in the Book of Nehemiah; and Nehemiah (be it remembered) himself was chief surveyor at Jerusalem and rebuilt its walls, and therefore must have known the position of Zion, the City of David, a thousand times better than either Josephus or any other writer on Jerusalem from his day to this.

As no one seems disposed to accept my challenge and grapple boldly

with my theory, I suppose it is time for me to make a sally and expose the utter hollowness of the arguments alleged in favour of the rival sites for Zion, positions well described (to use Lewin's word) as pseudo-Zions.

Now the key to the whole question of the true site of Zion consists of two simple facts, viz. :

(A) That the Hebrew version always describes the Valley of Hinnom as *ge*-Hinnom, and the Brook Kidron (on the east side of Jerusalem) as *nachal*-Kidron, never once interchanging the two words *ge* and *nachal*.

(B) That in the historical books of the Bible, the City of David is six times called Zion, but never in a single instance Mount Zion, while in the Psalms and Prophets this term is often applied to the Temple. Consistently with this distinction, 1 Maccabees, omitting all mention of *Zion* simply, speaks of the City of David as one place and *Mount* Zion as another, identifying it with the Temple or sanctuary.

Through disregarding these reasonable distinctions, and taking *ge* to be equivalent to *nachal*, and Zion (the City of David) to be the same as Mount Zion, writers have unconsciously produced such a confusion in Jerusalem topography, that with scores of books bearing on the subject, very few persons are aware of the true site of the City of David.

This remarkable distinction between *ge* and *nachal*, I must add, is no invention of mine devised to prop up my theory. Gesenius long since observed it, Lewin approved of it, Williams "had misgivings" in disregarding it, Thrupp and Captain Conder and others have recognised it; I merely insist on its *rigid* application, confident that it is the key to Jerusalem.

Further, that the City of David is never historically called Mount Zion in the Bible is a point that any Bible reader may verify for himself. Having got possession of this invaluable key, let me now use it without fear against all the pseudo-Zions, and show how untenable and indefensible it makes every one of the various positions held by the opponents of my theory.

First I will take the site west of the Temple originally proposed (though it resembles Lightfoot's) by Sir Charles Warren, since with his opinion on many kindred points I am in the closest agreement.

I. Zion, South and not West of the Temple.

In 1871 Sir C. Warren stated in the "Recovery of Jerusalem," that "in the Book of Nehemiah, the City of David, the House of David, and the Sepulchre of David, all appear to be on the south-eastern side of the hill of Ophel, near the Virgin's Fount, and yet such a position for Zion appears at first sight to be out of the question."

Seven years passed over before I perceived that the apparently contrary evidence, which seemed to Sir C. Warren to make the Ophel position for Zion "out of the question," really was in strict agreement with the evidence of Nehemiah. Seven years more have rolled on since that time, yet I regret to have to add that the whole Biblical evidence, which I have from time to time shown to be *consistent*, and to point to but

one conclusion, still appears to him contradictory, and leads him still to place Zion, the City of David, on the western side of the Temple, and not on Ophel on its southern side. When I place Zion on Ophel, he admits "it is the *natural* position to assign to it on reading the Book of Nehemiah, only it does not seem to me to accord with the other accounts."

I am very desirous that Sir C. Warren from an opponent should become an ally of my theory, by being convinced that this *natural position* is also the true position. One important result, I believe, would be that a diligent and (I anticipate) a successful search would soon be made for the sepulchres of David, and of the Kings of Judah, and the discovery of these most interesting and magnificent relics of pre-exilic Jerusalem would, once and for ever, lay the restless ghost of controversy about the position of the City of David, and save me the trouble of demolishing the other pseudo-Zions.

With this object I would point out two things—

(1) That the weight of Nehemiah's evidence is simply overwhelming.

(2) That his evidence is really in the strictest accord with all the other accounts except one or two palpably incorrect statements of Josephus.

The Book of Nehemiah (as admitted by Sir C. Warren) places (1) the Sepulchres of David (iii, 16), (2) the House of David (xii, 37), and (3) and (4) the stairs of the City of David (iii, 15 ; xii, 37), between the Pool of Siloah and the Temple, *i.e.*, on Ophel (so-called). It is also to be noted that in harmony with these indications "the House of the Mighty" (or *Gibborim*, the technical name of *David's* body-guard) is further (iii, 16) spoken of as being in this part, *i.e.*, on Ophel.

Here I must ask two questions. In the case of what sacred site does the identification rest upon fuller or better evidence than the Book of Nehemiah gives in the case of the City of David? If these four or five consistent statements in Nehemiah can reasonably be discredited, what identifications can reasonably be believed? Is it not far more probable that Nehemiah's statements are the truth, the whole truth, and nothing but the truth, and that the other sacred writers have been misunderstood by Sir C. Warren, than that the Biblical statements about the City of David are inconsistent and contradictory?

Sir C. Warren ("Temple or Tomb," p. 41) thinks it "probable that from the first the site of the Holy Sepulchre was known among the Christians, and that *it has never been forgotten*." But is it not much more probable that the Jews, with far less difficulties to contend with, never forgot the site of the Sepulchre of David, and of the City of David? When Sir C. Warren rejects the Ophel site for Zion, it seems to me that he has to suppose that the Jews, in the time of Nehemiah, had actually become misled about the true position of the Tomb and the House and the City of David, although there had been no break whatever in the continuity of their knowledge about these revered localities, for "many of the priests and Levites and chief of the fathers, who were ancient men, that had seen the first house," were present when "the foundation of this (second

Temple *i.e.*) house was laid before their eyes" (Ezra iii, 12). Is it possible that all these had either forgotten the position of the chief sites in "the city of their fathers' sepulchres," or else agreed to transfer them to wrong positions? Any such ignorance or conspiracy is utterly inconceivable. If it is once admitted that the Book of Nehemiah places the *Tomb* and the *House* and the *City* of David all on Ophel, then, whatever be the consequences, I see no way of escape from a frank admission that these localities were actually on Ophel.

The position, however, held by Sir C. Warren I understand to be this, viz., that strong as is the evidence in Nehemiah in favour of Zion, the City of David, having been on Ophel, nevertheless the evidence requiring Zion to have been elsewhere seems to him still stronger and only to be satisfied by his site. As in the *Athenæum*, 1881, he writes of "The Temple or the Tomb" thus, "I must state emphatically that this book is a very serious attempt to settle the topography of Jerusalem, and one that I have no doubt will be successful," I take that work as setting forth his reasons for placing Zion west of the Temple.

Let me first, however, state certain points on which I agree with this most candid of opponents. He states in his book—

(*a*) p. 21: "They (the first book of Maccabees) call the sanctuary . . . Mount Zion."

(*b*) 9: "Zion, . . . the royal sepulchres were also there."

(*c*) 9, 10: "Zion formed part and was the fortress of Jerusalem. Zion was not synonymous or co-extensive with Jerusalem. We have not a single instance in the historical books of the term Zion, or the City of David, being used for the whole city.

(*d*) 24, 25: "His (*i.e.*, Josephus') vagueness in speaking of the topography of the past . . . greatly in contrast with the precision throughout the historical books (of the Bible) and 1 Maccabees. . . . It does not appear in any case that he gives any help in the topography" (*i.e.*, of the Jerusalem of the Old Testament).

(*e*) 13: "There can be little doubt that Zion the stronghold was in Benjamin."

Having thus successfully threaded his way through what have proved great stumbling blocks to many, Sir C. Warren seems to me to have been completely beguiled into a wrong conclusion by three misconceptions: first as to (A) and (B) above, in reference to the distinction between *ge* and *nachal*, and between Zion and Mount Zion; and next, (C), that the Acra of Josephus was west and not south of the Temple.

Unconscious of his first misconception, Sir C. Warren writes ("Temple or Tomb," p. 35) in support of his western site thus: "This position I have assigned to Zion is the only one which allows of accord in the several accounts, and is the only site yet proposed that will render intelligible the passage, 'Now after this, he (Manasseh) built a wall without the City of David, on the west side of Gihon in the valley' (2 Chron. xxxiii, 14)." One has only to point out that the word here rendered *valley* is in the Hebrew version *nachal*, and at once it will be apparent that this passage,

instead of supporting Sir C. Warren's theory, is directly opposed to it, and confirms the evidence of Nehemiah. For a wall in the *nachal* or Kidron Valley, which is on the east side of Jerusalem, could not possibly be on the *west* side of Jerusalem. While, further, as Gihon literally means a *spring*, and not a pool, and as the only spring in the Kidron Valley is the Virgin's Fount, a lower wall on the east side of Ophel just west of that Fount (as required by this passage) would exactly suit the indications of Nehemiah which place the City of David on Ophel.

Even if some sophist could succeed in persuading one that *nachal* does not always in regard to Jerusalem mean the Kidron, still it might fairly be urged that it was needless to make the Bible contradictory, by applying to the valley running westwards from the Temple a term which undoubtedly often refers to the Kidron, especially when the usual application would leave Nehemiah and 2 Chronicles in perfect accord. So again, in like manner, 2 Chron. xxxii, 30, may be as well explained by the Ophel site for the City of David as by one west of the Temple, while it is probable that if Gihon means (as it must) the Virgin's Fount in xxxiii, 14, it also means the same spring in xxxii, 30.

One mistake often leads to and confirms another. Unaware that the *nachal* (Kidron) could not be the *ge* (Hinnom), Sir C. Warren drew the boundary between Judah and Benjamin which "went up by the valley of the son of Hinnom" (Josh. xv, 8) from "the Virgin's Fount, up the (Valley of Hinnom) Kedron, until nearly opposite the south-east angle of the Noble Sanctuary, where it crossed over the hill of Moriah at the southern side of the Temple, and thence up the Tyropœon Valley to the Jaffa Gate" ("Jerusalem Rec.," p. 307). As this line quite excluded the Ophel site from Benjamin (see (*e*) above), Sir C. Warren appears to think it unnecessary to discuss the Ophel site in "The Temple or the Tomb," and accordingly he does not make any allusion to the evidence of Nehemiah, even while he takes the trouble of saying (p. 24), "Akra (*i.e.*, Zion) could not have been south of the upper city as here fixed, and if further to the north than Et-Takiyeh, it would have been on the other side of the valley," &c.

Had he only gone on to deal with the Ophel site, I believe Sir Charles Warren and not I would now be its most resolute defender.

Further, unaware of his second misconception, Sir C. Warren writes ("Temple or Tomb," p. 11): "It would hardly be necessary to point out that Mounts Zion and Moriah were distinct hills, were it not that of late years they have been pronounced by some writers to be identical. In the first place, for many years after King David captured Jerusalem, Zion was a royal city, while Moriah must have been beyond Jerusalem, and was the private property of a sheikh or chieftain of the Jebusites. Then, again, David had to go up to Mount Moriah, which he could not have done had the two been identical; then we have the grand ceremony of bringing up the ark of God *out of the City of David, which is Zion*, up to Mount Moriah."

Here misconception as to (B), or involuntary confusion between *Zion*

and Mount Zion, makes a mountain of difficulty where everything is really smooth and plain. Only let it be borne in mind that Zion was the City of David, and that Mount Zion (the higher part of the ridge north of Zion) was the site of the Temple—*i.e.*, Mount Moriah—and these three points turn out to be genuine supporters of my theory.

David lived in Zion, the City of David, while Mount Moriah was outside it. Therefore he could go up and the ark could be brought up "out of the City of David which is Zion" to Mount Moriah (*alias* Mount Zion).

I have thus shown that the Biblical passages claimed by Sir C. Warren as requiring another site for Zion than that marked out in Nehemiah, are really in the strictest harmony with the evidence of that book. Instead of there being any "difficulty or discrepancy" about the Biblical statements, there is nothing but perfect concord among them, as to the position of the City of David.

After this it would only be so much the worse for the credit of Josephus if the third misconception (C) that I have attributed to Sir C. Warren could be shown to be no misconception on his part. For what value, in opposition to the Bible, would belong to the opinion of a "vague" writer like Josephus, who "does not appear in any case to give any help" in the topography of pre-exilic Jerusalem, but has rather made of it a Gordian knot by a few rash conjectures and inaccurate statements of his own devising? Bare justice, however, to the Jewish historian demands that I should point out that he nevertheless places his Acra *south* of the Temple, so that he also is thereby a witness in favour of the Ophel site for Zion, inasmuch as he makes his Acra correspond with the fortress or Acra of the Maccabees, and this (1 Macc. i, 33) was identical with the City of David. (See Acra south of the Temple.)

One or two other points still remain to be noticed. It is said ("Temple or Tomb," p. 12) that "in no single instance in the historical books is this (that it was a holy place) said of Zion after the building of the Temple." This, however, from 2 Chron. viii, 11, seems hardly to be correct, and curiously enough this verse is quoted on p. 6. Yet after the ark had been taken out of Zion, the City of David, one does not expect to read historically anything implying that it was still there.

Sir C. Warren admits ("Temple or Tomb," p. 18) that no argument as to the position of Zion, the City of David, can be derived from the poetical books, yet afterwards he points out that Psalm xlviii may be an exception, and "if so we have direct proof that Zion, the City of David, stood on the north side of the city."

Obviously he refers to the words, "Beautiful for situation, the joy of the whole earth, is Mount Zion on the sides of the north, the city of the great King." But, unhappily for his theory, even here it is *Mount* Zion (or the Temple), and not Zion the City of David, that is said to be towards the north. In *Quarterly Statement*, 1883, p. 154 (see also 1878, p. 183), I have pointed out that the Rabbis (though misunderstood by Lightfoot and Fergusson) in several passages place *Mount* Zion (*i.e.*, the Temple) on the

ὠκοδόμησαν τὴν πόλιν Δαυὶδ καὶ ἐξένεγκα αὐτὸς

north side of the city (*i.e.*, of David), or Zion. Therefore Zion was south of the Temple.

Lastly, if Sir C. Warren should urge ("Temple or Tomb," p. 21) that the foreign soldiers *descended* from the Acra (*i.e.*, the City of David) to molest the Jews, and that they could not have *descended* from the Ophel site, then the answer is that it is either he himself or Josephus who makes them to *descend*, since 1 Maccabees, the reliable authority for these times (which Josephus was not), speaks rather of a going up from the Acra to the Temple (1 Macc. vii, 33).

As, therefore, (1) Sir C. Warren admits that Nehemiah in four particulars places the City of David on Ophel, and (2) as it has been shown that 2 Chron. xxxiii, 14, instead of requiring his western site, makes it impossible, and that there was no difficulty in going from Zion, the City of David, to Mount Zion, the site of the Temple, and that according to Psalm xlviii and the Rabbis, Mount Zion, or the Temple, was on the north side of (Zion) the City of David; for it is admitted that 1 Maccabees gives the name of Mount Zion to the Temple, and identifies the City of David with its Acra; and (3) as this Acra is identified by Josephus with his Acra, which he has been shown to place south of the Temple, I now invite Sir C. Warren either to find some fresh defence for his pseudo-Zion or to abandon it entirely and occupy what he has all along admitted is Nehemiah's site, viz., that on Ophel so-called.

I await with keen pleasure Sir C. Warren's attention to these remarks, hoping that he will (if he can) overthrow my conceit or else become the latest and ablest advocate of the Ophel site for Zion. To his memorable excavations at Jerusalem I am deeply indebted for my interest in the Holy City. If his works have enabled me, as a dwarf on a giant's shoulders, on the one solitary point of the true site of Zion, to see at present somewhat further than he has done, I cheerfully own my obligation to such an instructor.

Most gladly, too, shall I turn chameleon and change from a hasty critic to a patient spectator, whenever an outburst of enthusiasm for discovering the hidden catacombs of David sends forth a treasure-laden band of explorers to resume his too long suspended work of discovery. In this case whom would the men of Silwân ("Jerusalem Rec.," p. 243) more eagerly hail in their native tongue as a guide through the labyrinthine sepulchres of Ophel, than the well-known *Monitor Niloticus* (*Quarterly Statement*, 1871, p. 86) of the Philistian plain?

Meanwhile, if any one (in the absence of our *gibborim* in Africa) thinks that I go in for assertion rather than for argument, let him not fail at once ruthlessly (and if he likes anonymously) to expose the fallacies of my fancied reasoning.

Perish my theory if it be false; but if it is true, then the very next thing is to search for the sepulchres of David, so that some fortunate explorer may telegraph to Mr. Besant almost in the very words of Cæsar, "Veni, vidi, vici."

W. F. Birch.

P.S.—I see that at the Carlisle Church Congress, Canon Tristram practically accepted my challenge and attacked the Ophel site for Zion in the following words :—

"Still less does it seem to me possible to conceive that the City of David, the fortress, was on Ophel, dominated by the higher rock of Moriah behind, and with the commanding brow of the modern City of David to the west. To any one acquainted with the strategic sites of ancient fortresses, the hypothesis is simply impossible. What becomes of the wall of Ophel excavated by Sir C. Warren, and which is referred to in Kings and Chronicles as the work of Manasseh? And again, there is no question as to the Jerusalem of the period of the return. We read the minute details of Nehemiah, and no ingenuity can square his description of the circuit with the suggested position of the City of David."

Now it is remarkable that not men of war, like Sir C. Warren and Captain Conder, but Canon Tristram, like myself, a man of peace, should be the first to urge that, from a military point of view, it is impossible that the City of David, a fortress, ever stood on Ophel.

In "Jerusalem Recovered," Sir C. Warren observes that there is a rocky knoll on the Ophel ridge higher than the ground immediately north of it. This knoll he marks at 2,290 feet (p. 298). If the ancient fortress of the Jebusites reached northward as far as this knoll, and was fortified here by a wall 50 feet high, then according to his plan of the rock levels it would not be dominated by any point on the Moriah ridge, or on the western hill (the modern Sion), within a distance of 400 feet. But at that distance, against *walls* built of *mezzeh*, what would even Arish's bow have availed, though it was reputed to have carried between 400 and 500 miles?

If in the age of the twelve spies, the cities of Canaan were "walled up to heaven," why might not the castle of Zion, 400 years after, be fortified in its weakest point by a wall 50 feet high? And how then, I would ask, does Canon Tristram propose with a sling and a stone, or even with a long bow, in the absence of catapults, to capture a fortress not dominated within a range of 400 feet? Secondly, as the Ophel wall discovered by Sir C. Warren is at least 200 feet north of the knoll (the assumed northern point of the City of David), the date of its construction has nothing to do with David's Zion.

Thirdly, "the minute details of Nehemiah" place (and are admitted by Sir C. Warren to appear to place) the City of David solely on Ophel. I am glad to see every form of objection urged against Ophel (so called) being the site of the City of David, since, as the feebleness of each objection is exposed, it will gradually dawn on one and another opponent that Nehemiah's site is both true and reasonable. One unique and invaluable advantage that this site possessed I may here name in passing, viz., that by means of a secret passage (Sir C. Warren's shaft, or the "Gutter," 2 Sam. v, 8) the defenders of Zion had at their service an inexhaustible supply of water from the Virgin's Fount.

If now the opponents of the eastern hill once more fall back from

arguments on *names* they will be worse off than ever, since General Gordon ("Reflections in Palestine," p. 14) observed, "The Hebrew 'tzion' is always the eastern hill." It will take a few bushels of names to outweigh that of the noble hero of Khartoum.

NOTES BY THE REV. G. H. TOMKINS.

I.

SUGGESTED IDENTIFICATION OF BEROTHAH OR BEROTHAI.

This place, so important on the northern frontier of Palestine, has never yet been fixed. The name B-rôthah, ברותה, is only given by Ezekiel (xlvii, 16) in setting out the boundaries of the tribes. I do not doubt that it is the B-rôthai, or B-rôthi, ברותי, or ברתי, of 2 Sam. viii, 8, a city of Hadadezer, King of Zobah, taken from him by David. I hope to show that this place may now be identified in a very interesting way, both by its name and by its probable position, and I will take the matter as it came to me, only premising that if I am wrong in separate points still my main position may hold good.

In the Karnak List of Northern Syrian towns made tributary by Thothmes III (Mariette, "Karnak," pl. 19, 20, 21) occurs Bur-su (141). In "Proc. Soc. Bib. Arch.," Jan. 9th, 1883, I made a guess at its being possibly the Bisuru of Assurnazirpal (now Tell Basher), but this did not satisfy me, and it occurred to my mind that the explanation might be found in the Semitic word for cypress, or perhaps pine-tree, viz., Assyr. *burâshu;* Heb. *b-rôsh*, ברוש; Aram. *b-rôth*, ברות; Arab. (says Kitto) *burasi* and *burati;* Syr. vers. *berutha;* Chald. *berath.*

Now the *Bursu* of Thothmes is very close to the Assyrian *burâshu*, allowing for the Syrian *s* instead of *sh*, which the Rutennu, lords of the land in the time of Thothmes, would use. Burasu and the Egyptain transcript Bur-su are one word, and this led me to the country of coniferous trees, and to the name B-rothah in the Bible.

It has been supposed that the B-rôthah of Ezekiel is Beirût, but I think this quite inadmissible from the situation of Beirût, and also from the name, which seems much more likely to be Heb. בארות, wells; and here I think Egyptian records will help us. For we have a Beerôth in the Palestine List of Karnak, No. 19, *Bartu*, so recognised both by Mariette and by Maspero (Zt., 1881, p. 123). And again, we have Beirût in the Mohar's travels, *Bartha* (Brugsch, "Geog. Inschr.," vol. ii, 42; Pierret, "Voc.," pp. 124, 126). And these names differ from Bur-su as Beeroth, בארות, from B-rôsh or Burâsu, Berutha in the Syriac, and B-rôthah in Ezekiel, and B-rôthi in 2 Sam. viii, 8, which might well be near Riblah, but could not be Beirût, a place of the Phœnicians who were friends and close allies of David.

But I am anticipating. In the very interesting letter of M. Clermont-Ganneau (*Times*, Dec. 29, 1883, *Quarterly Statement*, Jan. 1884), the name of Wâdy *Brissa* struck me in connection with the rock-inscriptions of Nebuchadnezzar found there by M. Pognon, who thinks "that these texts mark the site of a timber-yard where trees were cut to be sent to Babylon." Now this seems to me to cohere with all the evidence, as I will try to show.

The name of the wâdy, "one of the wildest valleys on the eastern slope of Lebanon, about two hours from Hermel," appears also as the name of a place, *Brisa*, in the beautiful *Carte du Liban* of the French Imperial Government, at the mouth of the wâdy, down which a stream is marked as flowing to the Orontes. *Brisa* seems to declare the root B-R-S, which in various modifications signifies *to cut* (including B-R-TH), and this is the key to the names given above as designating the cypress, or pine, which was regarded as *timber* for hewing.

Now in Syriac names habitually end in the vowel *a*, and (as we have said) take the sound of *s* rather than of *sh*. And I think *Brisa* may well be so called from the tree in question, which Mr. Carruthers, of the British Museum, takes to be the *Pinus Halepensis* ("Bible Educ.," iv, 359); and it may well be this tree which the conquered people of the Lebanon are represented as felling for Seti I, that he might build a great ship, and rear their stately stems as masts for the bright streamers in front of his temples.

We know that Thothmes III led his armies to the Lebanon, and thence drew the tribute that pleased him. The ships of Phœnicia were laden with sticks of timber and masts, together with long poles of wood for [the dwellings of] the king, who had founded in the country of Lebanon a fortress of unusual strength, named after himself, near the Phœnician cities of Aradus and Simyra at the foot of Lebanon (Brugsch, "Hist.," vol. i, pp. 334, 336).

The great valley of Cœle-Syria, the course of the Orontes, the new walls and towers of Kadesh, were well known to this hardy warrior-king. And I know not why the name Bursu should not have marked the place in his time, where Nebuchadnezzar gathered his stores of pine-timber so long afterwards, and which is now known by the name of *Brisa*.

Possibly another name, hard by Brisa, may illustrate this supposition. In the *Carte du Liban* I find on the other side of Hermel a place marked Erénieh.

Now *êrinu* is the Assyrian name for the cedar, as in Hebrew אֶרֶז occurs in Isaiah xliv, 14. May not Erénieh be named from êrin, as Brisa from B-rôsh?

I will now endeavour to prove that Brisa is a very likely site for Berôthah, taking that place also as the B-rôthi of Samuel.

It was one of the cities of Hadadezer, King of Zobah, whom David defeated towards Hamath, where an intrusive Hittite king, Toü, was at war with Hadadezer (see Sayce, "Fresh Light from the Monuments," p. 163.) It is not surprising that Hadadezer, who had subjugated the

minor "kings of Zobah" whom Saul had beaten, should hold lordship over the upper course of the Orontes.

And, as far as we know, Brisa will suit Ezekiel's boundary right well. Unfortunately "the way of Khethlon" is not known. May Heit, west of Riblah, be Khethlon? It is on the way from "the great sea" to Zedad, *i.e.*, Sudud (Ezek. xlvii, 16). I think this description may be partly cleared as follows: "from the great sea the way of Khethlon towards the entrance to Zedad-Hamath [or Zedad of Hamath]; Berothah, Sibrim (which is on the frontier of Damascus and Hamath); the middle Khatser (which is on the frontier of Khauran); and the frontier from the west Khatser-Ainûn the frontier of Damascus, and Zephôn [the Orontes, as Captain Conder suggests] northwards, and the frontier of Hamath." The Septuagint, which is very confused, seems to read Zedad-Hamath as one name transposed, viz., Hemaseldam. If we take it as meaning Zedad of Hamath the difficulty of getting Hamath into the frontier-list disappears; and then all will go consistently. For we thus cut out the Phœnician territory, including the Lebanon, by a line following the opening of the Nahr el Kebîr to a little south of the Bahr el Kades, then striking the Orontes near Hermel, and perhaps making its south-east corner at Sabura, west of Damascus (Sibrim ? סברים), and then westwards to the north of Hermon until it finds the sea again. This will not take the frontier to Zedad, but to the entrance (לבוא), "as men go to Zedad" (A.V.), or, as the Vulgate puts it, "a mari magno via Hethalon, venientibus Sedada."

Then Khatser-ainûm, if it be at 'Ain el Asy, as Captain Conder suggests, would be quite in the line following the higher waters of the Orontes (Zephon), and he says that it is "close to the present north-west limit of the Damascus district."

But the situation of Berothah seems to be nearly settled by one Biblical coincidence. The place called Berothai in 2 Sam. viii is designated Kôn, כון, evidently the Conna of the Antonine Itinerary, in the parallel text of 1 Chron. xviii, 8.

This has been set by Porter and the *Carte du Liban* at Râs Ba'albek; but the thirty-two Roman miles given from Heliopolis will overreach Râs Ba'albek, and accordingly Captain Conder suggests Kamû'a el Hirmil. But this distance will very nearly bring us to Brisa, which may surely well be B-rôthah and Kôn.

If indeed the Brisa of the rock-inscriptions of Nebuchadnezzar were the Bursu of Thothmes, and the Biblical Berotha, it would be a wealthy place, and David might well have taken "exceeding much brass" thence. And this would bring David's northern limit very near to the land of the Hittites and to Kadesh, as the record of his census shows in 2 Sam. xxiv, 6.

P.S.—I think it a very interesting thing that in the Karnak List of Northern Syria, No. 246, is found the name *Lebu*, which must, I think, be *Lebweh* on the road half-way between Ba'albek and Brisa, which

"modern name is sometimes pronounced *Lebu*," says Captain Burton. "It is the Lybo or Lybon of the Antonine Itinerary." ("Unexpl. Syria," vol. i, 64) [? Libo].

II.

THE QUÊ OF THE ASSYRIAN ANNALS IN THE BIBLE.

The land of Quê, mentioned by Assyrian kings in their records of conquest, was the plain of Cilicia.

In the last work which, still incomplete, left the hand of the lamented Fr. Lenormant ("Les Origines de l'Histoire," vol. iii, p. 9), he has pointed out the interesting fact that this land is mentioned in 1 Kings x, 28, and 2 Chron. i, 16, where the word translated in A.V. "linenyarn" has so perplexed the interpreters. Jerome has given the true sense: "And horses were brought to Solomon from Egypt and from *Coa*, for the king's merchants bought them from *Coa*, and brought them at a settled price;" and similarly in the parallel passage. In the Hebrew it is קוֹא, קוה, and it is to be noticed that "all the kings of the Hittites" must include the King of Quê, as indeed we know.

In the Septuagint the name is given as Thĕkouĕ, Θεκουέ, but I think this was caused by the Egyptian prefix *Ta*, meaning "the land," which might be familiar to the Alexandrian Jewish scholars.

This is an excellent instance of the light to be gained from Assyria for the explanation of the Bible. The name Quê also occurs in Egyptian records in the composite personal name of Kaui-sar, a Hittite officer in Egypt.

III.

LUZ IN THE LAND OF THE HITTITES.

Captain Conder thinks that the Lûz built by the man who betrayed Bethel (Lûz), as recorded in the Book of Judges (i, 22–26), may be the present Lûweizeh, near Bâniâs.

But if a more remote and northerly part of the "land of the Hittites" is to be preferred, it may be worth notice that in Rey's map a place called Qalb Louze is marked between Aleppo and Antioch, in the middle of the Hittite region.

IV.

THE NAME BETH-LEHEM.

THE ordinary meaning given to the name Beth-lekhem is "house of bread," the modern name being hardly different at bottom, viz., "house of flesh" in Arabic, since the root לחם, to eat, is only varied in application, as we now restrict the old general word "meat" to flesh-meat.

But I have long suspected that Beth-lekhem was originally a sacred place of the Lakhmu of whom we read in the Chaldean cosmogony (G. Smith, "Chaldæan Genesis," by Sayce, 58, 60, &c). Lakhmu and his female counterpart Lakhamu seem to have been deities of fertility.

There is another Bethlehem (of Zebulon), equally called Beit Lahm, an old city of the Canaanites (Josh. xix, 15), "in the midst of an oak forest," says Dr. Porter (Murray, 370), a better place for a sanctuary of Lakhmu than for a "house of bread."

I think this Lakhmu will also account for the name of "Lakhmi, the brother of Goliath the Gittite, whose spear-staff was like a weaver's beam" (1 Chron. xx, 5), and vindicate the text of the passsge in the Chronicles in preference to that in 2 Sam. xxi, 19, which is otherwise doubtful. This devotee of Lakhmu would well match the son of Anak devoted to Saph (Saphi) "of the sons of Rapha" in the verse before. (See my paper on "Biblical Proper Names," Trans. Vict. Inst., 1882.)

Perhaps Lakhmam, or Lakhmas, may be similarly named. It is supposed to be the present El Lahm, very near Beit Jibrin. "The situation appears satisfactory. The site is ancient" (*Quarterly Statement*, 1881, p. 53). This brings us to the very haunt of the sons of the giant, "the house of the giants." "We still find the neighbourhood of this town [Beit Jibrin] producing an exceptionally tall and fine race of peasants, greater and more stalwart men than those to be found in any other part of the country." So wrote the late Professor E. H. Palmer ("Jewish Nation," p. 58). Captain Conder speaks of the "gigantic sheikh" of this place ("Tent Life," vol. ii, p. 153). Indeed this Lahm might well be the home of "Lakhmi the brother of Goliath the Gittite," and Gath is only twelve miles off. That the old heathen significance of Lakhmu should resolve itself into "bread," and the proper name Lakhmi become unintelligible to the Jews, would be only characteristic of the purification that so signally swept Western Palestine of the monuments of its pristine idolatry, of which, however, the quaint memorials linger in occult forms of names and old-world folk-lore of the fellahîn, as M. Clermont-Ganneau and Captain Conder and others have disclosed.

V

ZOBATH, ARAM-ZOBATH, HAMATH-ZOBAH.

Zobah has, I think, never yet been identified, unless, indeed, by the lamented George Smith in his last explorations from Aleppo.

Dr. Friedrich Delitsch, in his work "Wo lag das Paradies?" p. 266, gives most interesting extracts from George Smith's last pencil notes, in which he wrote: "(April) 6 (1876): 2.30 P.M. to 6.30 P.M. on to Sfira. —7: 6.15 to 3.30. Kanassar, at corner of lake building of basalt, road through hills, large city by lake. Greek inscriptions and remains, remains of large camp near city—earth inclosure.—8: 3 hours past end of hills to Zobat or Zibat 4 miles round extensive ruins. Many Greek inscriptions, nothing earlier, tombs on hills.—9: 8 hours to Meskeneh, (Tipsah.)"

Now the name Zobat would agree with the Assyrian form of the name Zubitu, or Zubutu: and the place, more than a quarter of the way from Aleppo to Palmyra, would surely suit well enough for Zobah. Professor Sayce considers Pethor, at the outlet of the Sajur into the Euphrates, to have been in Aram-Zobah, and says: "The territory Zobah, which extended into the desert towards Palmyra, adjoined Aram-Rehob, and Aram-Maachah (2 Sam. x, 6). Aram-Maachah again bordered on Geshur "in Aram" (2 Sam. xv, 8; iii, 3); and both formed parts of the territory allotted to Manasseh (Josh. xiii, 11, 13). However, Rehob and part of Zobah alone are included under the name of *Arumu* or Aram in the Assyrian inscriptions, which place them on the west of the Euphrates, southward of Pethor and the R. Sajur" (Queen's Pr. Bible Supp., p. 69).

Is it not possible that the Tôb of 2 Sam. x, 6, whence the Ammonites hired Aramæans against David (with the warriors of Zobah, Beth-rehob, and Máakah) may be found at Taiyíbeh (marked Tyba in ancient maps), between Palmyra and Thapsacus, and that Rehob may be Ruheibeh, north-east of Damascus, on the old route to Palmyra by Geruda (Porter, "Syria, &c.," p. 505). It does not seem necessary that this Rehob should be the same as the northern limit of the reconnaissance of Joshua's spies. The name is frequent.

"Maachah," says Canon Tristram, "lay east of Argob (Deut. iii, 14), and east of Bashan (Josh. xii, 5)."

As to Khamath-Zobah, may not this be explained as the *warm baths* near Kanasír in the land of Zobah (חמת, the same in Hebrew without points as Khammath, viz., the present Hammâm ("Unexpl. Syria," vol. ii. 180), just as at Tiberias the Khammath of Josh. xix, 35, now Hammâm Tabaríya?

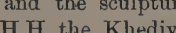
P.S.—Is it possible that the name Ma'akah may in altered shape survive in the Tell Umm Ma'azah, visited by Burton and Drake, north-east of the Lejah? ("Unexpl. Syria," vol. i, p. 231.)

EXPLORATION IN THE DELTA OF EGYPT.

By the Rev. H. G. Tomkins.

In the *Quarterly Statement* for January, 1884, some account was given of the important work of M. Naville for the Egypt Exploration Fund in the Wâdy Tumilât, *i.e.*, the valley of the Sweet-water Canal. Since the memorable discovery at Tell el Maskhutah much has been done at Sân by Mr. Flinders Petrie; and just now the subscribers to the Egypt Fund have received M. Naville's Memoir on "The Store-City of Pithom, and the Route of the Exodus." Of this I will first write something, and hope in a later number of the *Quarterly* to give a short account of the last year's work, and of that now in hand.

M. Naville's Memoir is handsomely got up, and contains thirteen plates and two maps. The plates are photographic, and represent the statue of the recorder and the sculptured hawk, both in the British Museum by the gift of H.H. the Khedive to the Committee, and of the Committee to the Museum. The plates give the inscriptions found by M. Naville. In these the name of the nome is given, that of the district, and that of the "store-city." The nome is  , the 8th nome of Lower Egypt. The district is  ,  ,  , the last form being truly equivalent to the Hebrew סכות, letter for letter.

With regard to the equivalence of  and ס the instances given by Brugsch in the *Zeitschrift f. Aeg. Spr.* 1875, p. 8, are conclusive, and so says M. Naville, p. 6: "The letter  which was pronounced *th* is often transcribed in Greek and Coptic by σ, and in Hebrew by ס. The name of Σεβέννυτος, Sebennytus, *Theb neter*  is a striking proof of this assertion, which is corroborated by the spelling of many common names. I need not dwell on this philological demonstration, which seems to me quite conclusive."

Yet a writer in the *Athenæum* of February 14, 1885, has the hardihood to pronounce that "the philology that can identify the *Oukut* of the hieroglyphics with the סֻכּוֹת of Exodus xii, 37, is worthless.[1]

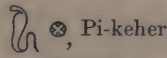
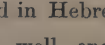
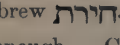
The "store-city" is called by the name of its sanctuary, spelt both ideographically and phonetically,  , Pi-Tum, Hebrew פתם, and  , Ha-neter Tum, which equally means the sanctuary of Tum; and the tutelary god of the place is identified by various and conclusive

[1] I am glad to find that M. Naville agrees with me in an interesting point: "Rev. H. G. Tomkins has pointed out that we have the Assyrian transcription of Succoth in the Iskhût of Essarhaddon. *Academy*, March 3, 1883." Mem. p. 6, note.

proofs besides. In the *Deutsche Revue*, March 1884, p. 358, Brugsch gives his adherence to M. Naville's conclusion in most undoubting language.

I have already pointed out in the *Quarterly Statement* for January, 1884, how singularly the structures disclosed at Tell el Maskhutah, even in minute details, tell their own tale and bear out the precise and unusual particulars of the story in the Book of Exodus with regard to bricks, and straw, and reed, and the short supply, and the "hard bondage in mortar." It will not be doubted, I believe, by those who weigh the manifold monumental evidence, that we have there the store-city Pitum, built by the enthralled children of Israel.

It is in the large and important tablet of Ptolemy Philadelphus that we get some most interesting clues to further geographical discoveries.

The most curious is the mention of a place, with a sanctuary of Osiris, called  , Pi-keheret, which seems, as M. Naville supposes, to have been "the second sanctuary of Heroöpolis, at a short distance from Pi-Tum, but nearer the sea." He compares the name with the Pi-Ha-Khiroth (Exod. xiv, 2, 9; Numb. xxxiii, 7), פי החירת; LXX (Numb.), *τοστόμα Εἱρὼθ*; Vulg., Phihahiroth. In Numb. xxxiii, 8, we have merely Hakhiroth; LXX, *Εἰὼθ*. The name itself seems to be, therefore, Egyptian, expressed in Hebrew חירת. This would, I think, convey the sound of  well enough. Considering the determinative (a serpent), may we not compare  , "serpent of the lower hemisphere" (Pierret. Vocab., p. 372)?

The ascertained position of Pi-tum and the indication of "Pihakhiroth" of Exodus put us on the sure line of march of the Israelites. I would recommend students of these questions to read the new edition (just out) of the very able and important work of the Abbé Vigouroux, "La Bible et les Découvertes Modernes," 4me. edn. Paris. Berche et Tralin, Tome II.

In a future *Quarterly Statement* I hope to return to some detailed points of geography of the eastern part of the Delta. Meanwhile it is most satisfactory to know that M. Naville has undertaken excavations at an important point near Fakûs in the heart of the land of Goshen.

In the great ruined and deserted capital of the Delta, Zoan, Tanis, Sân, Mr. Flinders Petrie has entered on a course of thorough examination in his methodical and perfect style. It must be remembered that he has done much valuable service, which scholars will appreciate, in pioneering; having sifted the first tentative suggestions in very many places, and ascertained at what spots work will be worth the cost. All this is of very high practical importance, besides the actual results, of which I hope to speak in the next *Quarterly Statement*, with regard both to biblical and to classic antiquity.

The Rev. W. C. Winslow, of Boston, the Hon. Treasurer for America, is doing most active and successful work; and with regard to support at home it is especially to be noted with much pleasure that the Hellenic Society has given an earnest of approval and practical interest by a

donation towards the cost of excavations at the spot where Mr. Flinders Petrie has, in all probability, hit upon the ancient Naucratis, the one Greek colony of later Pharaonic times. The Hellenists will revel in the spoils of this mine of early Greek art, while the Biblicists will await the certainly important tidings of further exploration in Goshen and the "Field of Zoan."

THE SITE OF EMMAUS.

By the Rev. P. Mearns.

The interesting narrative of our Lord's journey to Emmaus, with two of His disciples, on the day of His resurrection, has caused much attention to be given to the question as to the site of the village; but, until recently, nothing satisfactory had been suggested in the way of identifying the site. Mrs. Finn's identification of Emmaus with Urtâs, in the valley of Etham, near Bethlehem, has been received with much approval, as it well deserves to be. But certain objections have been urged against this discovery by writers who have paid some attention to the subject, and such objections ought to be carefully weighed. One thing seems to me certain, however, that if Urtâs be rejected the site is still entirely unknown.

Two writers, who both held theories of their own, have stated objections, in the *Quarterly Statement* for October last, to Mrs. Finn's discovery. It has been remarked by a shrewd observer of men and manners, that when a man has made a speech in favour of an opinion he is not likely to change it, even after he finds strong objections stated against it; but, if he has written a book in its advocacy, there is no longer any hope of his abandoning it. Mrs. Finn's critics naturally wish credit for previously expressed views; but others will be careful to weigh the evidence on both sides. The two objectors to Mrs. Finn are not themselves agreed; and, whatever may be said of her discovery, I think we must throw their theories overboard; for they do not seem to me to meet the requirements of the case. It appeared to me at first, as it does still, that none of the sites recently discovered in Palestine have been supported by evidence more conclusive than that produced by Mrs. Finn in favour of Urtâs as the true Emmaus.

Mr. Henderson says—"At the risk of being classed among cavillers I venture to give reasons for entirely dissenting from the proposed identification." He refers to Lightfoot, "who proposed to identify Etham with Emmaus, not only anticipating Mrs. Finn's proposal, but giving another, and (as he thinks) more plausible support for it than she has done." This remark is curious, especially as following his strong dissent. It cannot mean, that because the learned Lightfoot went to the valley of Etham for the site of Emmaus, Mr. Henderson "entirely dissents from" the proposal of Mrs. Finn to go to the same valley for the same purpose.

Perhaps he merely meant to refuse the credit of the discovery to Mrs. Finn because Lightfoot made a remark somewhat in the same direction. He thinks that Lightfoot anticipated Mrs. Finn's proposal, and gave more plausible support for it; and we almost expect him to add, therefore I yield to Dr. Lightfoot rather than to Mrs. Finn. Any one who has read Lightfoot's remark will see that it is feeble compared with the conclusive evidence adduced by Mrs. Finn; but we accept the identification with equal readiness, whether it is made by Lightfoot or Finn.

Mr. Henderson begins his objections thus:—"There is no evidence to show that 'the bath' Mrs. Finn writes of is of the age she assumes—that is, was old enough, not to say important enough, to give its name to a place known to Luke and Josephus." The reader is apt to suppose from this remark, that Mrs. Finn had incidentally found a bath among the ruins at Urtâs, and at once inferred that it was old enough to have given the name of Emmaus to the place before the days of Luke and Josephus; but, on turning to her paper in the *Quarterly Statement* for January, 1883, he will find that she has not said anything like this. After a personal examination of all the places, within $7\frac{1}{2}$ miles of Jerusalem, that had been or might be proposed as the site of Emmaus, she fixed on Urtâs as the only one that met the requirements of the narratives of Luke and Josephus. Her conclusion was not hasty, but was reached after a prolonged investigation of ten years. The ruined buildings had been concealed by 20 inches of soil; but she said that diggings might bring the buildings and the baths to light. "Several years passed before funds for making excavations were forthcoming;" but at length excavations were made, and both the buildings and the baths were found. Mrs. Finn thinks that there is reason to believe that baths had been used here in ancient times from the days of Solomon. It is a caricature of her remarkable discovery, to say that she found *one bath*, and concluded that it was old enough to have given name to the place.

Mr. Henderson's second objection is, that "the existence of a bath, or baths, in a valley down which flows abundance of water is not, *primâ facie*, a thing so special as to explain the distinctive name of a village." He does not say that the excavations carried out under the direction of Mr. Cyril Graham and Mrs. Finn brought several baths to light; but he slips in the words "or baths" to cover the whole. The reader who fails to turn to Mrs. Finn's paper will form a very incorrect idea of her discovery from the representations of Mr. Henderson. The local name of Urtâs is Hammâm, which like Emmaus signifies baths; and a rock there has the name *Leeyet al Hammâm*, that is, "the promontory of the baths." Here was abundance of water, and baths, and the very name Emmaus in its local form. But Mr. Henderson thinks that "if every place is to be recognised as a possible Emmaus where the name 'Hammâm' is found, we shall have plenty to choose from." It is not a "possible Emmaus" that is wanted, but one $7\frac{1}{2}$ miles from Jerusalem, with the other necessary requirements, and, if we give up Urtâs, instead of many places to choose from, there is not one left.

Mr. Henderson's other objections are equally trifling. Jerome looked away from Urtâs, which was near Bethlehem, where he was living, to Nicopolis, which was far away, as the Emmaus of Luke. Mr. Henderson rejects Jerome's opinion, for this Christian Father favours Nicopolis; but he tries to get an argument against Mrs. Finn from his very silence. He appeals also to the silence of Meshullam, who is now dead; but how does he know what Meshullam had heard of Emmaus or Hammâm? As M. Meshullam and Mrs. Finn were joint-cultivators of the ground at Urtâs, it is likely that she had told him all she knew about the name, and probably he knew of it before her, as he had lived for years on the spot. Mr. Henderson thinks that Urtâs refers to the old gardens of Solomon; and that it was an older name than Emmaus; but he has not produced a particle of evidence for this opinion. Mrs. Finn's explanation is much preferable—that the Roman soldiers, who were settled there after the destruction of Jerusalem, changed the name from Emmaus to *Hortus*, the Latin name for garden; and that the natives corrupted this name into Urtâs.

Mr. Henderson is favourable to the claims of Kubeibeh, for which place not much can be said, except that it is about the proper distance from Jerusalem, which might be said of many other places equi-distant with it. The Crusaders fixed on it; but their opinion does not count for much. In publishing an account of my journey in Palestine in 1881, from Joppa to Jerusalem, I had occasion to remark—"It is a pity we can ask no more than probability for Kubeibeh" as the site of Emmaus. I could get no reliable information regarding the site. Since the publication of Mrs. Finn's discovery, in 1883, there is no longer a *probability* in favour of Kubeibeh. Mrs. Finn was aware of its claims; but, after a personal inspection, she concluded that neither there, nor anywhere else at the distance of $7\frac{1}{2}$ miles from Jerusalem, is there a sufficient supply of water for the baths of Emmaus. Professor Robinson says, that it was only in the beginning of the fourteenth century, when traces began to appear of the "idea which fixed an Emmaus at Kubeibeh; a transfer of which there is no earlier vestige, and for which there was no possible ground, except to find an Emmaus at about sixty stadia from the Holy City."

Mr. Henderson is not strongly in favour of Kubeibeh—he gives his readers a choice of it, or Khamasa on the other side of Jerusalem: he is only strongly against Urtâs, the true site. He was formerly an advocate of Khamasa, but the distance of ten miles from the city appears to have cooled him; although he retains the name, in the face of this formidable objection, so far as to offer his readers a choice between Khamesa and Kubeibeh. Lieutenant Conder's objection to Khamasa is unanswerable—"The distance of Khamasa is $8\frac{1}{2}$ English miles (some seventy stadia) in a straight line, and 10 by road" (*Quarterly Statement* for 1881, p. 274). Mr. Henderson reserves a right to offer a choice of Khamasa after it has been given up by everybody else who has given attention to the subject.

The second letter is very incorrectly printed. I therefore avoid

referring to what may be only typographical errors. But the letter is more distinguished by confidence than caution. Mr. Kennion begins by saying: "Mrs. Finn's case rests on a mistaken inference from the words of Josephus about the Galilee Emmaus." He ought to have been very sure of his ground before writing down so sweeping a condemnation of so esteemed a writer as Mrs. Finn. She is not likely to have rested her whole case "on a mistaken inference." On examination it will be found that Mr. Kennion is mistaken, and not Mrs. Finn. He says that Josephus interprets the name Emmaus "to mean *pro hâc vice* hot wells. But he certainly does not intend it to be understood that the name Emmaus always has that meaning." But Josephus, in fact, does not interpret the name Emmaus to mean, either for the occasion referred to or any other, "hot wells." The word he uses is *θερμα*, *warm baths*, referring to the gentle heat of baths. But if he had meant hot springs he would have used the feminine, *θερμαι*. Josephus says, that the meaning of a warm bath was particularly applicable to the Tiberian Emmaus; for in it was a spring of warm water, to supply the bath, and useful for healing. The historian distinctly says, that the name always points to a warm bath. The Hebrew Hammath also signifies "warm baths," rather than hot springs, as Dr. Tregelles remarks under the word in his edition of Gesenius. At Emmaus Nicopolis there was a healing fountain, and the baths supplied by it gave name to the place. Neither at Nicopolis nor Urtâs is there a hot spring now, whatever there may have been in the days of the Bible; but Mrs. Finn thinks that the name might be given to a place famous for its baths artificially heated. Mr. Kennion asserts that there is "no ground for the assumption with which Mrs. Finn sets out, that the interpretation given by Josephus to the Galilee Emmaus is to be extended, or has any application to any other Emmaus." But the truth is, that Josephus records the fact that the name was applied to three places—Tiberias, Nicopolis, and the village $7\frac{1}{2}$ miles from Jerusalem; and he intimates no limitation of the general meaning he assigns to the word.

Mr. Kennion gives a much better account of Mrs. Finn's discovery than Mr. Henderson does. He says:—"The copious fountain in the Urtâs valley attracted her attention, as being sufficient to supply baths. The recollection of once visible traces of baths still existed in the neighbourhood: search is made: remains of extensive and luxurious baths are brought to light, dating very probably from the days of Herod the Great: and Mrs. Finn concludes that she has found Emmaus." We almost expect him to add, as he might well have done, I agree with her, and accept this as a highly interesting and important discovery. It is therefore disappointing to find him adding, "I submit that, just as every Emmaus was not a Hamath, or hot spring, so every discovery of Hammâm, or baths, is not the discovery of an Emmaus. That there were Hammâm at Urtâs Mrs. Finn has discovered as a veritable and interesting fact. But that the village itself, or the district, was ever known by the name of Emmaus, or even of Hammâm,

Mrs. Finn has not advanced a fragment of evidence." I have already shown that Emmaus is never a hot spring, but a hot bath, and that the three places to which, according to Josephus, the name was applied had all a spring for the supply of baths, and that Mrs. Finn found the local name for Emmaus at Urtâs. We do not speak of "a fragment of evidence" merely, but we say that the chain of evidence in favour of Urtâs is complete, not one link being wanting.

Mrs. Finn remarked in her paper that Emmaus had been "chosen for a Roman settlement of military colonists, 800 strong;" and she added that "Cæsar ordered the lands of Judæa to be put up for sale, *all but one place*, which he reserved for 800 men, whom he had dismissed from his army—which he gave them for habitation." She thought it "not likely" that Kolonieh would have been chosen for the Emmaus settlement; "for it would have been altogether useless on the western side as a check on the eastern fortress of Masada, or on the mountain district in general, being too much off the upper plateau of Highlands." Mr. Kennion objects that "the colonisation referred to was in no sense what she calls it, *military*. It was a *grant of land* to 800 *disbanded* veterans, for their residence and possession." Unintentionally no doubt, but not the less really, does he here misrepresent Mrs. Finn. He does not quote her words, but he conveys the impression that, according to her, the 800 soldiers belonged still to the regular army, and that they were stationed at Emmaus solely for defensive purposes. But she called the company military only because it consisted of soldiers dismissed from the army; and they would require some fortification to defend themselves from the sudden attacks of neighbours in those times of war and confusion. Their very presence would be a protection against incursions from the east side of the Jordan. Mr. Kennion puts emphasis on the words *grant of land* and *disbanded*, as if to intimate that Mrs. Finn had said something contrary; but her words were confirmatory of both.

Mr. Kennion tries to get some help from Jerome, who blunderingly fixed on Nicopolis as the Emmaus of Luke, and overlooked the true site; but he admits the fact that the true site was not known in the days of Jerome, so that he can get no help from him.

He mentions what he calls an *improbability*—that Josephus and Luke should have stated the distance from Jerusalem if the place was so near Bethlehem. He is at a great loss for arguments when he resorts to such an improbability. Josephus was likely to state the distance from the great city where the Romans completed their conquest of the Jews, when he was speaking of the destination of a portion of the disbanded army. And as for Luke, he was describing a journey, not from Bethlehem, but from Jerusalem to Emmaus, and probably the disciples only passed near, and not through, the City of David. His mistaken improbabilities lead him again to speak of "the fragile nature" of Mrs. Finn's arguments;" but he is still dreaming; when will he awake? It is "as when a hungry man dreameth, and, behold, he eateth; but he awaketh, and his soul is empty."

Mr. Kennion concludes by propounding his own theory, which is, that the district of Emmaus in Josephus "lay along the valley that has Kolonieh at its southern extremity," and that the village in Luke "was near the head of that valley, and reaching on to Kubeibeh." It is his old opinion, which he finds it hard to give up in favour of Mrs. Finn, whom, however, he thanks "for her valuable contribution to the discussion."

I have already referred to the claims of Kubeibeh, which really have no weight in the presence of Mrs. Finn's discovery. As for the district beginning at Kolonieh, four miles from Jerusalem, it is impossible that Josephus, who knew the district well, could have said that it was 7½ miles from the city. The proposal of this site must therefore be regarded as utterly untenable. But no discovery of baths is mentioned at Kubeibeh; and the reader now perceives why the writer was led into the error of asserting that Josephus explained Emmaus to mean hot springs, and that baths were not necessary to every Emmaus. He shuts his eyes against the flood of light which Mrs. Finn has thrown on the subject, and says: "One conclusion is indisputable, that no other location of St. Luke's Emmaus could by any possibility combine so many rays of light as converge upon the Wâdy Buwai." His conclusion is not only disputed, but we may pronounce it utterly impossible to accept the site he proposes. All was doubt and uncertainty about the site of Emmaus till the publication of Mrs. Finn's paper; but now all appears clear and certain.

Coldstream.

ZION AND OPHEL.

By J. M. Tenz.

Mr. Birch and Dr. A. H. Sayce are confident that Mount Zion stood on the south side of the Temple mount which descends down to the lowest part of the valleys surrounding Jerusalem, and Dr. Sayce, in his "Topography of Præ-exilic Jerusalem," in the last *Quarterly Statement*, takes it for granted that it is no longer possible to deny it. Yet the valley which Dr. Sayce shows in his sketch map to divide Ophel from his little Mount Zion on the lowest hill of the city has no existence.

We may also justify the remarks made by Captain Conder in reply to Mr. Birch on the same subject in the last *Quarterly Statement*.

Josephus, the great historian of the Jews, who is so much blamed for his errors, and attributed errors, is yet the most reliable authority, as it has in many cases been proved by recent discoveries.

Having for many years taken great interest in the history of Jerusalem, the Temple, and the discoveries made from time to time by exploring

parties, and having also carefully constructed a model of that city when in the time just before its destruction by Titus, I may be permitted to give my opinion on the topography of ancient Jerusalem.

The "upper city" of Josephus answers to all requirements of Mount Zion, the City of David. "Walk about Zion, and go round about her, tell the towers thereof, mark ye well her bulwarks, and consider her palaces," means many towers, extensive walls, numbers and important palaces, which could not have all been placed on the lower slope of the Temple-hill, which by Josephus is called the suburb.

In a military point of view we may naturally suppose that the uppermost hill was "Mount Zion, the stronghold of the Jebusites." History and recent discoveries support it. When the Israelites took possession of their promised land, Jerusalem fell to the lot of Benjamin (5 "Ant.," i, 22), "but the Jebusites who inhabited it were not driven out until the time of David," "and the border went up by the valley of the son of Hinnom unto the south side of the Jebusite; the same is Jerusalem" (Josh. xv, 8). This passage sufficiently indicates that the border went up by the south valley, which is now called valley of Hinnom. The Tomb of David may also be looked for at or near the traditional site, which is over against, or near "the pool that was made" (Neh. iii, 16), which may well be the so-called lower Pool of Gihon, once one of the largest pools at Jerusalem.

The Dragon Well may be identified with the Virgin's Well.

On the arrival of Nehemiah at Jerusalem, the Temple was partly rebuilt by Zerubbabel; the king's high house (the site of which was in later years joined to the outer court of the Temple by Herod the Great) was probably restored, and the Nethinims had dwellings in Ophel; Nehemiah would have taken up his residence there, as the other parts of the city were still in ruins. On his night journey he would have proceeded from Ophel to the valley gate before the Dragon Well (Virgin's Well), then went on to the dung gate, probably the same as the gate between two walls near the Pool of Siloam, then to the fountain gate, a gate leading to the upper city. After he went up by the brook (Brook Gihon and Valley of Hinnom), then returned and entered by the valley gate (Neh. ii, 12–15).

Further explorations may result in the discovery of the site of the east, or Shushan gate, which according to the Talmud stood over against the east front of the Temple. Thus we would obtain the exact line from east to west through the centre of the Altar, which, I believe, stood on the rock in the Great Mosque. It has also been remarked, in one of the *Quarterly Statements*, that the sacred cubit, which is said to have been marked on the sides of the Shushan gate, may yet be found on the lower part, which must have been below the level of the court, with steps to descend to a much lower level of the ground outside the wall, but which is now to a great extent filled up. The discovery of that gate would therefore be of great importance.

It is still my impression that some remains of the second wall may yet be found on the east side of the Church of the Holy Sepulchre. It is quite possible that that church may cover the site of Calvary and the garden of

Joseph of Arimathea. Although, according to the Talmud, the place of stoning, and the discoveries of the ruins of St. Stephen's Church outside the Damascus gate, may favour Captain Conder's views of his supposed Calvary on a hill just outside that gate, yet the traditional site, which dates at least back to the time of the Empress Helena, ought not to be disputed until further discoveries can be made.

We sincerely hope that the Palestine Exploration Fund Society will be able to continue their work of exploration at Jerusalem, which is the only means to lead us to a satisfactory result.

December 10th, 1883.

CAPTAIN CONDER AND KADESH-BARNEA.

By the Rev. H. Clay Trumbull.

Inasmuch as Captain Conder has given special prominence, in the *Quarterly Statement*, to my volume on Kadesh-Barnea, as worthy of consideration in the settlement of a pivotal point in the lower boundary of Palestine, I venture to ask the privilege of calling attention to the main purpose of that volume—which he has not touched by his comments.

In "Kadesh-Barnea," I have subjected every Biblical mention of that ancient site to an examination, and have compared them all with each other, showing, as I believe, that many of them absolutely require its location at or near the site of 'Ayn Qadees, and that every one of them is consistent with that location; hence that there and there only its identification is properly to be looked for. If I am right as to this consensus of Biblical evidence, it follows that even if a Kadesh-Barnea be actually discovered elsewhere, it cannot, by any possibility, be the Kadesh-Barnea of the Bible-text.

This basal portion of my volume is, as I have said, left untouched by Captain Conder's criticisms; and if, indeed, he were found to be correct at every one of his more than twenty noted points of difference with my incidental suggestions of confirmatory evidence of the identification of 'Ayn Qadees, my claim that *there* is the site of Kadesh-Barnea would remain as strong as before, in spite of such errors in my confirmatory collatings.

But, lest Captain Conder's long list of apparent mistakes on my part should throw discredit on the really important portion of the volume, not dealt with by him, and so should deter from its examination those who know of it only from his criticisms, I desire to say, that after a careful re-examination of every point to which Captain Conder has taken exception, I am of the opinion that at no one of them has he shown an error in the work he criticises, while in a number of cases his own position is clearly untenable. Let me name a few illustrative instances.

1. I referred to the plain of "Es-Seer," or "Es-Sirr"—as noted by Rowlands and Wilson and Palmer—as a trace of the old name of "Seir," in the region south-eastward from Beersheba. Captain Conder says of this modern name: "Until it can be shown to contain the guttural of the Hebrew, it cannot be considered to represent Seir, especially as it should begin with *Shin*, nor with *Sin* or *Sad*." But Gesenius, Fürst, and other lexicographers, are positive that the Hebrew guttural (ע) is frequently interchanged with approximate sounds, and is sometimes dropped altogether. Captain Conder himself suggests this dropping, when he would find a trace of "Ba'al" in "Ballah." And Dr. John Wilson even cites this very word "Seir" (east of the Arabah) as an illustration of the exceptional dropping of the *'Ayn*. "Yet we have," he says, "الشراة (Esh-Sherah), for שֵׂעִיר (Seir)." And in this view Wilson is sustained by Burckhardt, by Koehler in his notes on Abulfeda, and by others.

Again, the lexicographers above-named give marked illustrations of the representing of the Hebrew *Sin* by the Arabic *Sin*, instead of *Shin*. This would seem to make it *possible*, certainly, for the name "Es-Seer" to be a trace of the ancient "Seir," especially as the district where it is found did, as I think I have shown from the Bible-text, formerly bear that name—whether it be found there now or not.

2. I have claimed that the early Old Testament sweep of Edom clearly included the region also known as "Seir," where Esau lived before he removed to "Mount Seir." Captain Conder thinks that "the name Edom, or 'red,' must surely have been applied to the red sandstone country, and not to the white chalk plateau of the Tîh." But the Bible says that the name Edom likewise came from the "red" pottage—which Esau ate on "the white chalk plateau" of his early home; "therefore was his name called Edom," and therefore was his land likely to be known as the land of Edom. I still incline to the opinion that the Bible statement has some basis of truth in it.

3. In explaining the causes of the long-prevalent error that there were two Kadeshes, I referred to the Rabbinical evidence that there were two Reqams, one of which was Petra, and the other was Kadesh. Captain Conder says, "I fail to find anything to support the view that there were two Rekems, one at Petra, one at 'Ain Kadîs;" and he courteously suggests that "the second Rekem seems only necessary to the theory of 'Ain Kadîs being Kadesh-Barnea." But I cited the assertion of a well-known Talmudic scholar of more than two centuries ago, that, according to the Talmud, "there were two noteworthy places named Rekam on the limits of the land [the Holy Land]." Then I showed from the Talmud itself that one of these Reqams was in the region of Petra (probably identical with it) while the other (sometimes called "Reqam Giah") was on the westerly side of the desert, toward Askelon. The identity of 'Ain Qadees with this second Rekam I left open for other proof. Does Captain Conder really think that the Talmud was written in the special interest of those who would identify Kadesh at 'Ain Qadees?

4. Concerning the "Mount Hor in the edge of the land of Edom,"—which is not, however, an essential point in the locating of Kadesh-Barnea,—I claimed that the whole tenor of the references to it in the Bible-text forbid the possibility of its fixing at the traditional site, in a mountain stronghold of the Hebrew-tabooed Mount Seir; while every requirement of the sacred text is met in the suggested location at Jebel Madurah. The evidence of the Bible-text Captain Conder does not discuss; but he is sure as to "the consensus of tradition and opinion in the matter." I spoke of the possible vestige of the Hebrew name "Moseroth" (one of the names of the lower Mount Hor) in the Arabic "Madurah," "the consonants 'D' and 'S' having a constant tendency to interchange in Eastern speech." At this Captain Conder says: "I do not think this is the case. The soft T and the soft S (*Te* and *Sin*) are convertible, and so are the soft D or Dh and Z (*Dhal*, *Dal*, *Zain*), but I do not recall any instance where D and S are convertible." I did not say that D and S were "convertible," but that they had "a constant tendency to interchange;"—if Captain Conder is not aware of *that* fact, I am surprised; for the lexicons teem with illustrations of it, and Orientalists frequently refer to the fact. For example, from Freytag and Fürst: Hebrew, חָסָה (*Khasa*); Arabic, حدا (*Hadaa*); both meaning "to flee." Hebrew, נָסַךְ (*Nasakh*); Arabic, نضخ (*Nodakha*) and نضح (*Nadaha*), all three meaning "to pour out." Also in Arabic itself, such parallel forms as يصص (*yassasa*), and يضض (*yaddada*), "to open the eyes" (said of a young animal).

5. Incidentally I referred to the *correspondence* of the names "Zephath" and "Sebayta," and to the lack of the formerly claimed identity between "Zephath" and "Sufâh." Captain Conder says: "The radical meaning of this name [Zephath] in Hebrew and Arabic is the same, 'to be clear,' 'bright,' 'conspicuous,' 'shining.' The identity of Zephath and Sufâh can hardly be doubted by any who consider the root whence the two words originate. The suggestion of Sebaita or Sebâta for Zephath has always seemed to me to argue a want of scholarship on the part of Rowlands. The Arabic name seems to be from the root Sebt, 'rest,' which has not a single letter in common with the root whence Zephath originates." But it is Professor Palmer who says ("Desc. of Exod," ii, 375 *f*): "The name Sebaita is etymologically identical with the Zephath of the Bible, Zephath signifies a watch-tower." As to the root of the two words, it would seem that Captain Conder has mistaken, as a root, the Hebrew צבה (*Tsabah*), "to shine," for צָפָה (*Tsaphah*), "to look about." The idea that Professor Palmer, having examined this word on the field and afterwards in his study, should have confounded the root of "Zephath" and "Sebayta" with so common a root as that of the "Sabbath,"—"which has not a single letter in common with the root" he was considering,—presupposes "a want of scholarship" on the part of that eminent Orientalist which English readers generally will not be ready to admit without some show of proof.

6. One of the many Hazars, or Hezrons, or border-territory "enclosures," of Canaan, is mentioned in the sacred text as lying between Kadesh and Adar. I stated that I found traces of one or two enclosures between 'Ayn Qadees and 'Ayn Qadayrat, which would meet that description. Thereupon Captain Conder says: "Dr. Trumbull has omitted to notice what appears to me to be a strong argument, which, as far as I know, I was the first to suggest, in the identification of Hezron." The site of Hezron which Captain Conder suggests is "the Hadireh hill west of Wâdy el Yemen"—quite out of the Bible possibilities of the case; and he says: "It is strange that Dr. Trumbull should have been quite silent as to this suggestion, which if it be correct settles the Kadesh-Barnea question for ever;" and Captain Conder even thinks that "the omission of any notice of Hadireh (in 'Kadesh-Barnea'), and several minor errors above pointed out, seems to spoil the completeness of the work." Yet the term Hazar, Hazor or Hezron, or the plural form, in simple or in compound, is so common as a descriptive one in the Bible story (see, *e.g.*, Numb. xi, 35; xxxiv, 4, 9; Deut. ii, 23; Josh. xv, 23, 25, 27, 28; xix, 5, 36, 37; 1 Kings ix, 15; Ezek. xlvii, 16, 17), that if found by itself anywhere it would hardly be more determinative as a particular site than the term "camp." It is even shown by the Bible-text (Deut. ii, 23) that these Hazars or Hazarîm were all along the southern boundary of Canaan, and four or five of them are noted, as near each other in that region, in the description of that border (Josh. xv, 23–28). The idea that the finding a trace of one of those "enclosures" "settles the Kadesh-Barnea question for ever," seems to me so utterly chimerical that I should not have felt justified in an attempt to refute it if it were not forced into fresh prominence by Captain Conder's renewed claim of its importance. I certainly accord to him all the credit of being, as far as I know, "the first to suggest" it.

7. I gave the Arabic name of "Qadayrât" precisely as it was written for me by my guide, who gave me also its English meaning as "the power of God." Captain Conder says that "it appears to be spelt with a *Dad* [instead of a *Dal*] by mistake." Yet the dialectic change of *Dad* for *Dal* is by no means uncommon in Arabic words, as the lexicons show. I simply gave the writing and the definition as given to me by a native Arab. Captain Conder has himself emphasized "the importance of studying the local peasant dialect of Syria," because of its throwing light on the interchanging of letters—like *Sin* and *Sad*—supposed by scholars to be "never confused." Possibly another example of this is to be found in *Dad* and *Dal*.

8. Quite outside of the question of the site of Kadesh-Barnea, but considered at some length in my book, is the route of the Hebrew exodus. Captain Conder says: "It is to be regretted, however, that sufficient notice has not been taken of the facts (both geological and engineering), which leave it indisputable that the level of the Red Sea has been changing, and that the Isthmus of Suez has been growing broader within historic times.' In speaking of that which is "indisputable," Captain Conder probably

means that, in his opinion, the view he holds ought not to be disputed; —although he is aware that it is. I have yet to see any claim by a geological authority that the Isthmus *must have been* materially narrower in the days of Moses. The mere opinion of a geologist that it *might have been* so at that date, because it had been so long earlier, can weigh but little against the evidence and indications from history, sacred and profane, to which I have pointed in my book, that then it *was not* so.

9. My footnote remark, in passing, an incidental item of Egyptian history, that "the fortress of Kana'an has not been identified," prompts Captain Conder to say: "This seems to have been written before Dr. Trumbull had seen my paper on the subject, as my suggestion of Kana'an a large ruin near Hebron, met with hearty acceptance from Mr. Tomkins." In the English edition of my book (published by Hodder & Stoughton), I have mentioned Captain Conder's proposed identification; but while I recognise the exceptional value of the Rev. Henry George Tomkins's opinion in favour of one of Captain Conder's suggested identifications, I still venture to repeat what I have already said in my revised volume, that, in my opinion, Khurbet Kana'an "does not correspond with the pictured [Egyptian] representation of a fortress on a detached hill, with a lake near it."

10. Captain Conder's mention of a "rationalistic explanation of the pillar of cloud and of fire, which seems suggested on p. 397" of my book, I do not quite understand; but I desire to relieve the text and the tone of my work from the imputation which "seems suggested" in that mention. Referring to the fact that "it was common for Eastern armies to be guided by a column of smoke moving on in their van by day, and by a streaming banner of flame before them by night," I said that when Jehovah's host went out from Egypt, "the Lord went before them by day in a pillar of cloud to lead them the way; and by night in a pillar of fire to give them light." And to make it clear to every mind that I looked upon the Israelites' guiding emblem as a supernatural and a miraculous display, I quoted approvingly the words of Kurtz, that the difference between the ordinary caravan-beacon and this one was, "that the one was a merely natural arrangement, which answered its purpose but imperfectly, and was exceedingly insignificant in its character, whilst the other was a supernatural phenomenon, beyond all comparison more splendid and magnificent in its form, which was also made to answer far greater and more glorious ends." Possibly Captain Conder's term "rationalistic explanation" was a slip of the pen, or a misprint, for "rational explanation."

11. While admitting that I have shown the existence of an 'Ayn Qadees at the site described, Captain Conder suggests that it may be "a monkish site;" since "the monks were not careful as to the Biblical requirements of their sites;" and he also says that, "generally speaking, one feels that the evidence has been rather twisted in favour of 'Ain Kadîs, though Dr. Trumbull has striven to be impartial and candid." It is quite a fresh thought to me, that the monks were in the habit of fixing, in Arabic equivalents of ancient Hebrew, geographical sites of the Old Testament story,

in the Holy Land or the desert; although I knew that they located the homes, or the tombs, of Moses, and Aaron, and Samuel, and Elijah, and Jonah, and other Old Testament personages, without much regard to the Biblical requirements"—as in the case of Jebel Neby Haroon (called Mount Hor), for example. Their interest was, I supposed, in Bible biography rather than in Bible geography. Indeed in a work written since my re-discovery of 'Ayn Qadees, Captain Conder has said implicitly on this point ("Heth and Moab," p. 18): "There is, however, no better guide to identification than the discovery of an ancient name, and whatever may have been written concerning the migration of sites, we have not as yet any clearly proven case in which a Semitic indigenous title has wandered away from the original spot to which it was applied for geographical or religious reasons." Why Captain Conder would suggest an exception to his otherwise invariable rule, in this case of 'Ayn Qadees, is by no means obvious; for I certainly would not suggest that, "generally speaking, one feels that the evidence, or the argument," "has been rather twisted" by him *against* 'Ayn Qadees; for it must not be questioned that Captain Conder "has striven to be impartial and candid."

12. It would seem unnecessary for me to follow up in detail all the minor points touched by Captain Conder in his extended critical comments on my work; not one of which has any more force than those to which I have already replied. But there is a single other suggestion of his which I ought to note in closing. He says: "The map requires a word of notice, for it is not clear why 'Ain Kadis is there shown much further east in longitude than is the case in Palmer's map, or Holland's map." It is even in connection with *this* point that Captain Conder suggests the appearance of my twisting the evidence I would proffer. On the face of my map I said distinctly: "This map makes no claim to accuracy in the unsurveyed region of the Negeb. Any comparison of maps based on the researches of Robinson, Rowlands, Wilson, Palmer, Holland, Bartlett, and other recent explorers, will show irreconcilable differences in the contour of that region as portrayed by them. All that this map attempts is to indicate the outline and salient points of that region in the light of present knowledge, and as explained by descriptions in the text of the volume which it accompanies." I will now add, that on my return from the East I saw Professor Palmer in London, and talked over my discovery with him. He told me that he did *not* visit 'Ayn Qadees; hence he could not be sure of its location. We looked over his map together, and, in the light of all that I could tell him of my journeyings, he and I were agreed that 'Ayn Qadees must be farther east than he had supposed. Therefore it was that I entered it on my tentative sketch-map accordingly. As I understand it, Mr. Holland made no survey of the region, and the map which was prepared by General Sir Charles Wilson, to accompany Mr. Holland's posthumous notes of his journey, was also based on Palmer's (or Tyrwhitt Drake's) survey; hence, again, the location of 'Ayn Qadees was there given as erroneously indicated by Professor Palmer. *The difference in the location thus indicated affects in no degree, however, the question of identification*—an identification which the



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J.P.Emslie del. J.P. & W.A.F. Emslie lith.

Bible record will admit of anywhere within the sweep of a dozen or fifteen miles or so in that region, and only within that sweep. There was, therefore, no inducement for me to change the location for the sake of my argument, even if I were as liable to such swaying as Captain Conder would suppose.

Of one thing I am very sure, that the precise location of 'Ain Qadees—which is Kadesh-Barnea—can be known only through a careful survey of its region; and I earnestly hope that that survey will soon be made under the eminently competent direction of Captain Claude Regnier Conder; for whatever differences of opinion there may be as to his thousand and one identifications, with his often fanciful and his sometimes grotesque suggestions of resemblance, there is no question that he has laid the entire Bible-studying and truth-loving world under obligation to him, for his tireless, his intelligent, and his most skilful services as an explorer and a surveyor in the lands of the Bible. And of that line of his work, I sincerely hope that the end is not yet.

H. Clay Trumbull.

Philadelphia, U.S.A.

NOTES ON SOME PHŒNICIAN GEMS.

By Greville J. Chester, B.A.,
Member of the Royal Archæological Institute.

In the course of last winter, during visits of short duration to Smyrna and Beyrût, I obtained several antique gems and engraved stones of Phœnician and semi-Phœnician character, which seem to be of sufficient interest and importance to merit description in the *Quarterly Statement* of our Society. I should, however, mention at starting that, being altogether unlearned in ancient Oriental languages, I am indebted for the ensuing information concerning the different inscriptions to Professors A. H. Sayce of Oxford, and Robertson Smith of Cambridge, to whom my best thanks are due for the trouble they have taken, and the attention they have paid to the matter.

No. 1. Bought at Beyrût. (See plate.)—This gem is of pale blue chalcedony, approaching to the stone sometimes called "sapphirine," and is a fairly executed and beautiful specimen of semi-Phœnician work. The influence of both Egyptian and Assyrian art are here well displayed. The intaglio represents a winged sphinx treading upon a uræus. This sphinx, according to Professor Sayce, has the bearded human head of the Assyrian bull, surmounted by the plumes of the Egyptian god Bes. Each of the two wings ends in a horned head, of which one resembles that of a griffin, and the other that of some species of antelope. With regard to these heads, Professor Sayce remarks that they "suggest the origin of the

Greek legend of the Chimæra." Curiously enough, I this winter obtained in Lower Egypt a small bottle of brownish-green ware, being a grotesque human figure, in front of which is a seated lion, with the head and plumes of Bes. This variant was hitherto unknown to Professor R. V. Lanzone of Turin, the learned author of the "Mitologia Egizia," now in course of publication, and will be figured by him in the next forthcoming part of that work. On a Phœnico-Egyptian scarabæus of burnt sard in my possession, found in Egypt, is depicted a *hawk*-headed, seated sphinx, with the disk upon his head, and a uræus under his feet, and on a fragment of limestone sculptered on both sides, and of singularly fine work, now in the British Museum, but found in the Fayoum, and brought by me from Egypt in 1882, is a winged lion, passant, to the right, with the head and plumes of the same deity. Could this fragment have been identified as having been found in the Delta, it might have been supposed to have belonged to the period of the Shepherd Kings, and the combination ascribed to semi-Semitic influence, but I am not aware that the sway of the Hyksos extended to the isolated province of the Fayoum. Anyhow, it is interesting to compare the subject of the earthenware bottle, the gem, and the sculptured fragment, with that of the present stone. This gem has had a small hole drilled through it, close to the tail of the sphinx, by some possessor, who wished by that means to fit it for suspension.

No. 2. From Nazareth. (See plate.)—This gem, cut in intaglio in dark sard, is set in a modern gold ring of Oriental workmanship, and is of even finer work than the stone last described, and a most beautiful example of Egypto-Phœnician art. On it is a winged sphinx, seated, whose human head wears the Egyptian head-dress. Below this is a scarabæus, whose expanded wings stretch completely across the stone. Below this again, supported by uræi, is an ornamental cartouche, of which Professor Sayce remarks, "the hieroglyphics consist of the Egyptian *Neb*, 'Lord,' turned upside down, followed by the Hittite  'country,' twice repeated, and turned upside down." It may have been the signet of a Phœnician prince.

No. 3. Found at Amrît (*Marathus*). (See plate.)—This scarabæoid of hard yellowish-brown limestone is pronounced by Professor Sayce to be a very interesting example of Egypto-Phœnician work. It was formerly in the possession of the late well-known M. Perétié of Beyrût, whose large collection of Egypto-Phœnician amulets, scarabs, and scarabæoids fell into my hands after the death of their proprietor. Most of these objects are formed from steatite, but some, like the present specimen, are of harder stone. Their large number, upwards of three hundred, testify to a school of craftsmen for ornaments of this description having existed in early times, at least as early as Thothmes III, of the eighteenth Egyptian dynasty (*circa* 1600 B.C.), at Umrît.

The centre of this stone is occupied by the figure of a king, between two palm-branches, a characteristic and favourite emblem upon the Phœnician coast. The monarch, whose name seems to have been *Ah-nub*,

or, according to another possible reading, *Ah-men*, wears the *Pschent*, or combined crown of Upper and Lower Egypt, copied from Egyptian monuments, and is in the act of adoring the lunar disk "*Ah*." On either side the king is a cartouche, "each of which," says Professor Sayce, "contains the lunar disk *Ah*, and the character *Men*, each twice repeated and turned upside down. The work of this stone is distinctly Phœnician, and though the dress and attributes are Egyptian, the figure evidently represents a king of Phœnicia.

No. 4. Found at Beyrût. (See plate.)—This lentoid gem of white crystal is the most remarkable stone in the collection, and has been found very difficult to interpret. It has for its device three stars, of which the upper one is winged. Below these, and divided from them by two lines, is an early Phœnician inscription, written from right to left 𐤉𐤔𐤏𐤀 (ישעא), *i.e.*, *Yesha-ā*, from the root *Yĕsha*, to save. Professor Sayce considers the characters to be of the seventh or eighth century, B.C., and certainly not later; in which case this gem is one of the earliest known, and he adds that "the two lines which divide the name from the stars and winged solar disk [for so he deciphers the winged star] explain the origin of the similar names which divide in half the inscriptions on early Hebrew seals." With regard to the translation of the inscription, I have permission to insert in this place two communications with which I have been favoured by Professor Robertson Smith.

"The seal reads 𐤉𐤔𐤏𐤀, ישעא. The root ישע, is not Aramaic, and so the א cannot be the Aramaic article. The explanation must be sought within the Hebrew-Phœnician language.

"This being so, the analogies which naturally present themselves are those of such Phœnician proper names as כלבא, עבדא פתחא, in which the termination א appears to mark that the name has been shortened at the end. Thus Kalbā is the same name as Kalbēlīm (*Corp. Inscr. Sem.* Fasc. i, No. 52), Hanno (with ō for ā as a later pronunciation) is the shortened form of Hannibal or some such longer name, Pathha corresponds to a heathen counterpart of Pethahia, and so on.

"The Hebrews themselves have similar contractions of proper names, and had them at an early date, as appears from the form עֻזָּא = Uzziah or Azariah in 2 Samuel vi, 3. Thus if the seal were Hebrew, the name on it would be the short form answering to ישעידהו, Isaiah. The winged star seems, however, rather to point to a heathen owner, and in this case the last member lopped off will not be the name Jahveh, but some other divine name, as in the Phœnician instances already quoted, and the name means 'the victory or salvation of' Baal, or whoever the god is.

"Quite similar is the Philistine name Sidkā, King of Ascalon, on the inscriptions of Sennacherib. ישע without the א, appears as a proper name on a gem figured by Levy, *Phönizische Studien*, ii, No. 8*a* of the plate."

No. 5. Found at Konia, in Asia Minor. (See plate.)—This large scarabæoid gem, perforated lengthways for suspension, is formed of beautifully iridescent rock crystal. Upon it is represented the four-winged Assyro-Babylonian god Merodach, who, although the stone is slightly damaged, Professor Sayce considers is strangling in either hand the bird-demons. "This device," the Professor adds, "passed through Phœnicia to early Greece. Below Merodach, from which it is divided by double horizontal lines, is a bird, perhaps an eagle, on either side, divided by two vertical lines, the Egyptian symbol *Ankh*, the sign of life.

No. 7. Found at Beyrût.—A pierced scarabæoid. On it is a winged sphinx, with antelope's head, standing. Behind, a winged deity. This specimen is in poor preservation, but is remarkable on account of its material, which is malachite, a substance very rarely used by the ancients. Phœnician work.

No. 8. Found near Beyrût.—Scarabæoid of opaque white chalcedony. On it a bull, in front an amulet, perhaps intended to represent the solar disk. Good Græco-Phœnician work.

No. 9. From Beyrût.—Small scarabæoid of pale blue opaque chalcedony. On it a lotus flower; on either side, and facing it, a vulture with expanded wings. Beneath these a striated band. Below this a star, upon either side of which is a winged uræus, and again below, a scarab with expanded wings. Phœnician work.

No. 10. Coast of Syria. From the collection of M. Perétié. (See plate.)—This is a bead of white opaque gypsum. It bears an inscription of eight letters, the meaning of which has hitherto defied elucidation. Professors Wright, Robertson Smith, and Sayce are alike unable to interpret it, but the latter thinks it may be of Gnostic origin.

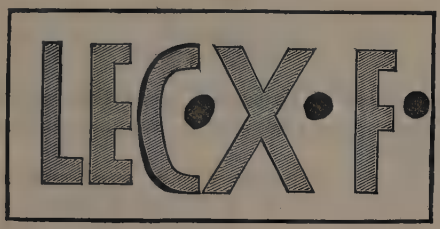
NOTES BY SELAH MERRILL, D.D., LL.D.

I.

A RELIC OF THE TENTH LEGION, CALLED "FRETENSIS."

I NOTICE in the list of antiquities in the possession of the Palestine Fund, that they have two imperfect specimens of tiles bearing the stamp of the Tenth Legion, and it may be of sufficient interest to state that I possess a perfect specimen, which I bought of some fellahîn who had just dug it from its hiding place. The following are the dimensions of the tile; $7\frac{1}{2} \times 7\frac{3}{4}$ inches, and $1\frac{1}{4}$ inches thick. The oblong place for the letters is sunk into the tile, leaving the letters in relief, the surface of the letters

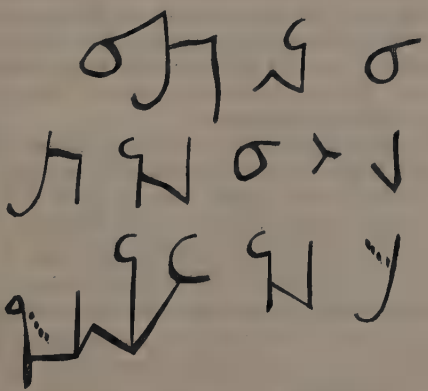
being of the same level as the surface of the tile. The oblong place itself is 4 inches long and $1\frac{3}{4}$ inches wide. The length of the letters is $1\frac{1}{4}$ inches.



II.

THE INSCRIPTION AT ARAK EL EMIR.

Every copyist, if he labours conscientiously, has reason to respect his own work until he is convinced that he is in error. I visited the place in question several times, and copied the inscription with care. My copy is quite unlike that which Captain Conder ascribes to Levy (*Quarterly Statement*, January, 1885, p. 12), and unlike that which Captain Conder gives as his own (*ibid.*), inasmuch as mine has a decided bar extending from the top towards the right as in the initial letter of the following inscription from Bozrah :—



In the first and second lines a letter occurs three times which is identical with the first letter in the Arak el Emir inscription. This letter I would read *Aleph*, and would transliterate the above inscription—

אמתא
לגאברת
־בר־מ־־

This is one of a number of Nabathean inscriptions which I copied while at work in the Hauran, but I have never had time to classify them or to give them much study.

I have for years felt that there were a larger number of Nabathean inscriptions to be gathered in the desert east of the Jordan than scholars imagined, and that when these have been collected, materials will exist for a better understanding and a fuller knowledge of that once powerful and interesting people.

I make no attempt to translate the Arak el Emir inscription, but when I visit the place again I will take pains to re-copy it, or to take an impression of the letters.

III.

THE STATIONS OF DAVID'S CENSUS OFFICERS.

The account of the numbering of the Israelites by David contains some interesting geographical notices, two of which, at least, have always been puzzles to scholars. It will be a help to remember that only Israel and Judah were to be numbered (see 2 Sam. xxiv, 1). The command was, "Go now through all the tribes of Israel, from Dan even to Beersheba," and leads us to suppose that aliens and subject peoples, whether within or without the limits of the kingdom, were not to be reckoned in the census of the Jewish people themselves. This is confirmed by verse 9, where the sum of the men of Israel and Judah only is given.

King David's officers crossed the Jordan and pitched first in Aroer near Jazer. They went thence to Gilead. Their third camping place was "the land of Tahtim Hodshi," their fourth camping place was Dan Jaan, and their fifth was Sidon. They went thence to the "stronghold of Tyre," and thus southward to Beersheba, keeping within the limits of the territory as defined in verse 2. The Hebrew of verse 6 is as follows :—"And they came to Gilead, ואל־ארץ תחתים חדשי, and they came דנה יען." The Septuagint renders verse 6—"And they came to Galaad, and into the land of Thabason which is Adasi, and they came to Dan Idan and Udan, and compassed Sidon." The Targum on Samuel has after Gilead, דרומא חדשי

ולארצא, that is, "and to the district south of Hodshi." Eusebius has, Ἀμειδδα ἡ Ἀδασαι, and Jerome, "Æthon Adasai pro quo Symmachus posuit inferiorem viam."

Numerous suggestions have been made in explanation of the words Tahtim Hodshi. The Septuagint regarded them as two names belonging to one place. Zunz, whose high rank among Jewish scholars all admit, regards them as two distinct places. Boettcher resolves the word Tahtim, תחתים, into תחת ים, below the sea. Fuerst is inclined, I judge, to favour this change, which is true of some other scholars. In that case ים would refer to the Sea of Galilee (compare Numb. xxxiv, 2; Josh. xii, 3; viii, 27), and Hodshi would have some connection with Chinnereth. Besides these hints there should be mentioned an important Hebrew tradition, found in the Midrash on Samuel, chapters xxx and xxxii, which connects Tahtim Hodshi with Beth Yereh.

There were two places, Tarichea and Sennabris, which Josephus locate at the southern end of the Lake of Tiberias, and both are extremely distant from the City of Tiberias, namely, thirty furlongs ("Life," xxxii; "Wars," III, ix, 7). Josephus states that the great plain of the Jordan commenced at Ginnabrin [Sennabris] ("Wars," IV, viii, 2); while the Talmud states that the Jordan did not receive that name until after it left Beth Yereh (בית ירח, Talmud Bab. Bechorot, 55*a*). It would seem that the point where the plain of the Jordan commenced (according to Josephus), and the point where the river Jordan began to receive that specific name (according to the Talmud) were practically identical. But, further, the Jerusalem Talmud mentions Beth Yereh and Sennabris together as the names of two towers, שני אבטליות, or fortified places on the Lake of Gennesareth (Megillah, i, 1, Gemara). This passage might be rendered, "The . . . was divided into two parts like Beth Yereh and Sennabri." The Aruch explains the words שניאבטליות (אבטניות for) as meaning "two castles in a place where there is a bridge for water, but there is no water between them." There can be little doubt, I think, that the Beth Yereh of the Talmud is the Tarichea of Josephus, of which the modern representative is *Kerak*. This place has long since been identified as Tarichea, and a knowledge of the nature of the ground compared with Josephus's detailed description of it makes such a conclusion almost if not absolutely certain.

It is difficult to decide whether Tarichea, Beth Yereh, or Yereh was the original form of the name, or whether the place bore two names, as was not unfrequently the case. The Hebrew name might have been written בית־תירח or בי־תירח, and this would easily come to be written בית־ירח. The name Tarichea is also a good Greek word meaning salting-station, from ταριχευω, which has reference to preserving bodies by artificial means, whether salting fish or embalming mummies. The name is thus supposed to be derived from the business of preserving fish which was carried on at this place (compare Strabo, xvi, 2, 45).

The long bluff at the extreme south-west corner of the Lake of Tiberias, which is called at present *Kerak*, was originally connected with

the mainland by a dry bridge or causeway. On the mainland at or near the end of this bridge we suppose that the place called Sennabris should be located. These suggestions, if valid, would illustrate and confirm both Josephus and the Jewish writings. The statement of the Aruch, for instance, made probable without any knowledge on the part of the writer of the ground at the south end of the Lake, could not have been more accurate than it is, and Josephus also would be correct in stating the distance of Tarichea and Sennabris from Tiberias to be the same and in the same direction.

I have several times had occasion to speak of the Jordan Valley on the east of the river, from the Lake of Tiberias as far south as the Zerka or Jabbok, as being exceedingly fertile because of the numerous mountain streams which water it. The first stream below the Lake is the Yarmuk, or Hieromax, called at present the *Menadireh*. It is an interesting fact that the region along this river, after it leaves the hills, is called *Ard el 'Adasiyeh*, عدسية. The Menadireh is, in that portion of it, called *Wâdy 'Adasiyeh*. At the point where the road approaches the river in order to enter the mountains there is a ruin of considerable size, which bears the common name of *Ed Deir*, and the portion of the valley of plain immediately north of it is called the Plain of Dueir. Still farther to the north, and but a short distance from the mountains, are the "hills of the foxes." On the shore of the Lake are the ruins of Semakh, and to the north-east is the place known as *Khurbet es Sumrah*. Down the valley to the south, a short distance from Ed Deir, and near the Menadireh, is a fountain and a ruin called Yagana (Yagana, Yag'na, or Yak'na, ياقانا, or يقنه). Since the letter *Heth* readily interchanges with *Ayin*, may it not be possible that 'Adasiyeh represents the ancient Hodshi?

In my judgment there was a very natural reason why the census-takers should visit the broad and fertile valley which stretches to the south from the lower end of the Sea of Galilee. They had completed their work in Gilead, and were on their way northward towards Sidon and its vicinity. As only Israel and Judah were to be numbered the region of Damascus would not be visited, but that just below the Sea of Galilee would be on their direct route as they went north. This was the meeting place of two great thoroughfares between the country on the east and that on the west of the Jordan, even as it is to-day. The road from Beisan to Damascus, which crosses the Jordan by the *Jisr Mejamia*, and the road from Tiberias to the Hauran and Gilead (formerly a fine bridge supported on ten arches, led over the Jordan just below the Lake), intersect on this plain now called Ard el 'Adasiyeh. If any point on their route, as the officers were going from Gilead northward, was suitable for a place of public assembly, none more suitable than this could have been chosen. Their object was not to get into a large city, but to pitch their camp in the place that was most central and most easily accessible for the largest number of the inhabitants.

One of the truest remarks ever made in the long discussion as to the site of the Holy Sepulchre was that of Lieutenant Conder, namely, that "Fortifications" (referring to the line of the walls) "follow the hills and not the valleys." Again, with regard to the site of Capernaum I have often urged, in opposition to those who advocate the claims of Tell Hum, the unreasonableness of supposing that a custom house would be located at a distance of $2\frac{1}{2}$ miles from the main route of travel, which it was designed to accommodate. In like manner in endeavouring to trace the route of David's census-takers is it unfair to claim that the most natural suppositions should receive the first consideration? It is on this principle that attention is now called to the district or Plain of 'Adasiyeh below the Sea of Galilee. Similarly the region about Aroer near Jazer (I locate Jazer at *Khurbet Sar*) has been the battle ground and the meeting place of the tribes living in that section of the country for generations, and why may it not always have been so?

If the census-takers chose for their work the most central and convenient points, we should expect one near Lake Merom. Dan, if it were chosen, would accommodate all the people residing north of the Sea of Galilee, and south of Mount Hermon. The great road from Damascus to the sea coast divided at Dan into two branches, one following the present route by Shukîf to Sidon, and the other, that farther south, past Hunîn to Tyre.

If Dan stood alone in the text there would never have been a doubt that one of the census stations was near this ancient and well-known site. But having the word Jaan with Dan has seemed to make the matter of identification a difficult one. We must remember that we are dealing with a Hebrew record of a very early date, when Phœnician influence was especially strong in the north of Palestine. Banias, the modern name found in this region, is commonly thought to be a corruption of Panias or Paneas, which commemorated the worship of the god Pan in this once famous grotto. But Banias is probably a corruption of a much older name, Balinas, composed of two Phœnician words, Bal and Jaan, or Yaan.

I notice in the "Transactions of the Society of Biblical Archæology," Vol. VII, Part 3, page 394, an attempt to identify Thatim Hodshi with Kadesh on the Orontes, which seems to me to be wholly without foundation. Why should the census-takers go more than 100 miles north of Palestine when they were directed to confine themselves to numbering the tribes of Israel within their several tribal territories?

A NOTE ON GOLGOTHA.

I have noticed latterly a good deal of discussion as to the site of Calvary, and that modern writers incline to place it north-west of Jerusalem. I have never been in Palestine, so can be no judge from the country of the fitness of their ideas. But I should like to make some suggestions arising from study of the Gospel narratives.

We read that Joseph of Arimathæa went in boldly to Pilate and begged the body of Jesus. Evidently then it was not customary for the bodies of crucified criminals to be given up to their friends; or Mary and His apostles would have taken His body as a matter of course. Joseph was an influential and rich man—he got it; but even he had to go to head-quarters, and make special request for it. How about the bodies of the two thieves? What would be done with them?

Two others were crucified with Him—on either side one, and Jesus in the midst. Plainly then it was an ordinary execution, and would take place at the ordinary spot. In the valley of the son of Hinnom was Tophet, where fires were kept always burning to consume the filth and refuse of the city; dead animals and the "bodies of criminals" were thrown therein. This valley debouches into the Cedron valley, wherein Jews so desire to be buried.

We read that many of the women who had followed Jesus and had ministered to Him, stood afar off beholding. They must have had some eminence on which to stand or they would not "from afar off" have been able to behold; the crowd would have hidden Him. This coign of vantage the Mount of Offence, or the Hill of Evil Council, would supply. As Antonia (and the Hall of Judgment) was at the north-west corner of the Temple hill, they would only have to bring Him down by the Temple precincts—always guarded—and a very short distance would bring them "without" the gates; for we are very sure the accursed valley of the son of Hinnom would never be enclosed within the Holy City by any wall. Neither does it seem at all likely that the spot for the infliction of the accursed death of crucifixion should be chosen near the place where were the tombs of kings and prophets. Does it not then seem that the most likely spot to fulfil all the Scripture requirements for the crucifixion is near the junction of the valley of Hinnom with that of the Cedron? There would be Tophet on the one hand, and the place of honourable burial close by on the other.

It is plain that Jesus was laid in an open space; for as the women came hurrying up, one is bidden by one angel to look in and see the place where the Lord lay; does so, and sees a second angel seated on the right side; whilst another woman standing on the outside stoops down to look in, and sees two angels within, sitting one at the head the other at the foot of the place where the body of Jesus had lain. There was space enough for Peter and John to walk in, and see where the grave-clothes lay, and the napkin which had bound the head lying apart.

Then as for the "mound bearing some resemblance to a skull." When we consider the earthquakes, the battles, the sieges, which so changed and destroyed the ancient features of the land, we need not lay much stress upon this: such resemblances are common in rocky countries. Within half a mile of the spot where I write is a sharp cliff which from three different points bears a faithful likeness of three men known to me, and extremely unlike each other. Any very wet early winter, followed quickly by severe frost, might bring down a portion of this cliff and utterly destroy all these faces.

The last argument for the north-west site, viz., the shorter length of streets to be passed through, is entirely set aside by supposing our Lord to be led along the Temple precincts to the south side, and so to the valley of the son of Hinnom.

GIRDLER WORRALL.

THE SAMARITAN TEMPLE.

CAPTAIN CONDER seems to think that no dependence is to be placed upon the precise statement of Josephus that there was a Temple on Mount Gerizim, unless a corroboration of his assertion can be furnished from another source.

I do not gather that he is prepared with any evidence actually contradicting Josephus, and until such is forthcoming may we not justifiably believe him, especially as he refers to the said Temple, not merely in the long passage to which reference is given by C. R. C. ("Ant.," XI, viii, 2–7), but also in "Ant.," XII, v, § 5, where he quotes a letter from the Samaritans to Antiochus asking permission for their Temple, which before had no name, to be called "the Temple of Jupiter Hellenius," and again in "Ant.," XIII, iii, § 4, in which he gives an account of the disputation before Ptolemy respecting the two Temples, viz., at Gerizim and at Jerusalem?

If there was no Temple at Gerizim, he must have fabricated a good deal more of his history than the assertion about its being built by Sanballat, of whom he records that "*he was then in years*" ("Ant.," XI, viii, § 2).

H. B. S. W.

March 23rd, 1885.

BETH HABBECHEREH, OR THE CHOSEN HOUSE—*continued.*

CHAPTER V.

1. The mountain of the house, which was Mount Moriah, was five hundred cubits by five hundred cubits, and it was surrounded by a wall.[1] And arches were built upon arches beneath it, because of the tent of defilement.[2] And it was all roofed over, cloister within cloister.[3]

2. And there were five gates to it; one on the west, and one on the east, and one on the north, and two on the south.[4] The breadth of each gate *was* ten cubits and its height twenty. And there were doors to them.[5]

3. Inside of it, a reticulated wall [*called soreg*] went all round. Its height was ten handbreadths,[6] and inside of the *soreg* the rampart[7] ten

[1] Middoth ii, 1, and i, 1.

[2] Parah iii, 3. "The mountain of the house and the courts were hollow underneath because of קבר התהום, the grave of the abyss," *i.e.*, lest there should be a hidden grave beneath.

[3] Pesachim i, 5. "Rabbi Judah said two cakes of a thank-offering which had become defiled were put upon the roof of the porch, על גב האיצטבא," and Rashi remarks that this porch was a סטיו = στοα, *cloister*, which was "in the mountain of the house where the people assembled and sat." The Gemara upon the same passage (Pesach. 13 *b*) says "Rabbi Judah said that the mountain of the house was a double cloister . . . . *which* was called אסטוונית, a porch, a cloister within a cloister," and here Rashi adds that it was furnished with a roof to protect the people from the rain, and that the porch, איצטבא, went all round, סביב סביב מקפת, and had another inside it. In Pesach. 52 *b*, and Berachoth 33 *b*, this remark of Rabbi Judah is again noted, and in the former place Rashi explains that "double porches, איצטבאות, were all round *the mountain of the house* one within the other." In Succah iv, 4, it is stated that the elders arranged the palm-branches of the people at the Feast of Tabernacles "upon the top of the porch," and here again the gloss of Rashi adds that the breadth, רחבה, of the mountain of the house was surrounded by covered cloisters." These cloisters and their roof are again mentioned in Succah 44 *b* and 45 *a*. According to the Talmud, therefore, a roofed double cloister extended all round the mountain of the house, but for the statement of Maimonides that the whole enclosure was roofed over (if that be the meaning of כולו היה מקורה) I find no authority in the Talmud.

[4] Middoth i, 1, 3. [5] Middoth ii, 3.

[6] This reticulated wall (סורג, *soreg*) is mentioned in Middoth ii, 3. The gloss of R. Shemaiah says "it was made of carved pieces of wood, מקליות עצים, intertwined one upon the other obliquely as they weave bedsteads." Rashi in Yoma 16 *a* says the soreg was "a partition made with many holes in it like a bedstead woven with cords, and was constructed of long and short pieces of wood called a lattice placed one upon another obliquely" (*cf.* Bartenora). I do not know that it is anywhere stated in the text of the Talmud whether the soreg was of stone or of wood.

[7] חיל, *chel*. The word (גיבהו, its height) is placed between brackets, and is perhaps an interpolation of the transcribers. That the *chel* was a space and not

cubits (in height). It is this which is spoken of in the Lamentations (ii, 8), "He made the rampart and the wall to lament;" that is the wall of the court.

4. Within the chel *was* the court, and the whole court was one hundred and eighty-seven *cubits* long by one hundred and thirty-five broad.[8] And it had seven gates, three on the north, near to the west, and three on the south near to the west, and one on the east,[9] set opposite the Holy of Holies in the middle.[10]

5. Each of these gates was ten cubits broad, and twenty cubits high, and they had doors covered with gold, except the eastern gate, which was

a wall is proved by several passages in the Talmud. In Sanhedrim 88 *b*, it is said "on sabbaths and feast days they (the members of the court) sat in the *chel*." Rashi adds "because the people were many and the place in the chamber too narrow for them." Pesachim 64 *b*, notes that "the first company (bringing their lambs at the Passover) remained in the mountain of the house, and the second in the *chel*," and here Rashi has the important note that it was "within the soreg, between the soreg and the wall of the court of the women, where the mountain began to rise." Baal Aruch says the *chel* was a place surrounding the wall between the mountain of the house and the court of the women, and that there was a great divinity school, מדרש גדול, in it.

In Kelim 5 *b*, we read "the *chel* was more sacred than the mountain of the house, because idolaters and those defiled by the dead might not enter there." Not improbably there was a rampart, perhaps with an escarp at the inner side of the open space, and joined to the wall of the courts, and to this the door of the house Moked opened (Midd. i, 7). The remark of Baal Aruch "that the *chel* was a wall higher than the soreg" would in this case be intelligible, and it may have been such a wall which some have supposed to have been ten cubits in height.

R. Lipsitz thinks that four cubits of the *chel* were level, and the remaining six on the rising ground, and that those six cubits were occupied by the steps up to the court, which steps he holds to have extended all round the house for the people to sit upon, and he founds this opinion upon the passages in Pesachim (13 *b*, 52 *b*) above quoted, and the gloss of Rashi. This learned Rabbi also holds that these steps and all the mountain of the house outside of the inner wall (the wall of the courts) were roofed over, and that probably seats were placed on the level ground outside the soreg (Mishnaoth, vol. v, 311 *b*, Warsaw 1864). Rashi, in Yoma 16 *a*, remarks that the twelve steps leading from the *chel* to the court of the women were באותן יאמות "in those ten cubits" which formed the breadth of the *chel*, because the mountain rose from the Soreg to the court of the women six cubits, and he farther adds, in reference to these steps, that "in breadth each step was half a cubit, and in length extended, משך, along the whole breadth of the mountain from north to south." Of the *chel* he says that it was "a vacant place of ten cubits."

[8] Middoth v, 1, 2, 6.

[9] Middoth i, 4: *cf. ib.* ii, 6, and Shekalim vi, 3.

[10] Berachoth ix, 5. "A man may not raise his head lightly (*i.e.*, indulge in levity) opposite the eastern gate, because that is set opposite the Holy of Holies."

covered with brass resembling gold, and that gate was what was called the upper gate, and it was the gate Nicanor.[11]

6. The court was not set in the middle of the mountain of the house, but its distance from the south of the mountain of the house was greater than that from all *the other* sides, and its nearness to the west greater than that to all *the other* sides. And the space between it and the north was greater than that between it and the west, and *that* between it and the east greater than that which was between it and the north.[12]

7. And before the court on the east was the court of the women, which was one hundred and thirty-five cubits long by one hundred and thirty-five cubits broad. And at its four corners were four chambers of forty cubits by forty, and they were not roofed, and thus they will be in the future.

8. And what was their use? The south-eastern chamber *was* the chamber of the Nazarites, because there they cooked their peace-offerings and shaved off their hair (Num. vi, 18); the north-eastern was the chamber for storing wood, and there the priest who had blemishes removed the worms upon the wood, because every piece of wood in which there was a worm was unlawful *for the altar*.[14] The north-western *was* the chamber of the lepers. In the south-western they put oil and wine, and it was called the chamber of the house of oil.[15]

9. The court of the women was surrounded by a balcony,[16] in order

[11] Middoth ii, 3. In Succah v, 4, it is said "the two priests stood at the upper gate which led down from the court of Israel into the court of the women." That this was the gate Nicanor appears from Middoth i, 4, "the gate on the east *of the court* was the gate Nicanor" (*cf.* Yoma 19 *a*). Rashi in his note on Sotah i, 5, says "the gate of Nicanor was the upper gate, which was in the wall that was between the court of Israel and the court of the women." To this gate suspected women were brought to drink the bitter waters of jealousy (Num. v.), and lepers and women after childbirth were cleansed at it (Sotah i, 5; Negaim xiv, 8). R. Shemaiah also, on Kelim 5 *b*, says, "the gate Nicanor was the gate of the court of Israel." In Kle Hammikdash vii, 6, Maimonides remarks, "the upper gate was the gate Nicanor. And why was it called the upper gate? Because it was above the court of the women."

[12] Middoth ii, 1. The Tosefoth Yom Tob gives the following measurements of the several spaces:—

	Cubits.		Cubits.
Northern space	115	Eastern space	213
Southern „	250	Western „	100
Court..	135	Court	287
	500		600

[13] Middoth ii, 5.

[14] For the chamber of wood, see also Shekalim vi, 2.

[15] Middoth ii, 5.

[16] גזוזטרא, *tabulatum;* in Middoth ii, 5, it is called כציצרה, *tabula, asser cui aliquid imponitur* (Buxtorf). This balcony is said by R. Shemaiah and by Bartenora to have been for the accommodation of the women during the rejoicings

that the women might see from above and the men from below, and so not be mixed. And there was a large house on the northern side of the court outside, between the court and the rampart (*chel*); it was arched and surrounded by stone benches, and it was called *Beth Hammoked*, the House Moked. There were two gates to it, one opening to the court and one opening to the *chel*.[17]

10. And there were four chambers in it, two holy and two profane, and pointed pieces of wood[18] distinguished between the holy and the profane. And for what did they serve? The south-western *was* the chamber of the lambs,[19] the south-eastern the chamber for making the shewbread, in the north-eastern the family of the Asmoneans laid up the stones of the altar which the Greek kings defiled, and in the north-western they went down to the bathing-room.

11. A person descending to the bath-room[20] from this chamber went by the gallery which ran under the whole Sanctuary,[21] and the lamps

at the Feast of Tabernacles, and they take this opinion from the Gamara (Succah 51 *b*), which explains that the erection of this balcony was part of the "great preparations" which were made on that occasion. "At first the women were within and the men without, and when they began to indulge in levity it was arranged that the women should be outside, and the men inside, and seeing that the occasion of levity still arose they arranged for the women to be above and the men below" (Gamara, *loc. cit.*). Rashi upon this passage remarks that in the court of the women there were originally no beams, גיזין, projecting from the walls, and that afterwards they placed beams jutting from the walls all round, and every year arranged these balconies of planks, upon which the women might stand and witness the rejoicings of the Beth Hashshavavah." Both Middoth and Maimonides speak of these balconies as if they were permanent.

[17] Middoth i, 5, 7, 8.

[18] חתיכות עצים, *pieces of wood* (Rashi in Yoma 15 *b*). "Ends of beams projecting from the wall" Bartenora (*cf.* Middoth i, 6; ii, 6; iv, 5). They do not appear to have formed a partition, but only to have been a sign indicating the limits of the holy and profane parts of the house.

[19] Middoth i, 6, where it is called the chamber of the lambs for the offering. In Tamid iii, 3, the chamber of the lambs is said to have been at the south-western corner, which evidently refers to its position in relation to the altar and court of the priests, and shows the position of the house Moked itself without contradicting the statement of Middoth and our author. There can hardly be a doubt that it was, as here stated, at the south-western corner of Moked, though the gloss on Tamid says it was on the north-west of that house (*cf.* Yoma 15 *b*, and Tosefoth Yom Tov on Tamid iii, 3).

[20] בית הטבילה, *domus lavaeri*, house of bathing or dipping. The bathing here practised differed from baptism in the usual modern signification of the term, inasmuch as it was not an initiatory rite, and might be repeated.

[21] In Tamid *i*, 1, it is "under the Birah!" "What is Birah? Rabbah, son of Bar Chanah, said that R. Johanan said there was a place in the mountain of the house, the name of which was Birah, and Raioh Lakish said all the house was called Birah," as is said (1 Chron. xxix, 19) "and to build the palace, *birah*, for which I have made provision" (Zevach. 104 *b*). Maimonides here uses the

burned on either side until he came to the bathing-room. And there was a large fire[22] there and an excellent[23] watercloset, and this was its excellence, that if he found it shut he knew there was some one inside.

12. The length of the court from east to west *was* a hundred and eighty-seven *cubits*, and these were the measurements, viz., from the western wall of the court to the wall of the temple (הֵיכָל) eleven cubits, the length of the whole temple a hundred cubits, between the porch and the altar two and twenty, the altar two and thirty, the place of the tread of the feet of the priests, which was called the court of the priests, eleven cubits, the place of the tread of the feet of Israel, which was called the court of Israel, eleven cubits.[24]

13. The breadth of the court from north to south *was* a hundred and thirty-five *cubits*, and these were the measurements,[25] viz., from the north wall to the shambles eight cubits, the shambles twelve cubits and a half: and there on the side they hung up and skinned the holy sacrifices.

14. The place of the tables was eight cubits, and in it were marble tables, upon which they laid the pieces of the offerings and washed the flesh to prepare it for being boiled. These were eight tables. And by the side of the place of the tables was the place of the rings, twenty-four cubits, and there they slaughtered the holy sacrifices.

15. Between the place of the rings and the altar *was* eight cubits, and the altar two and thirty, and the sloping ascent to the altar (כֶּבֶשׁ, *Kebesh*) thirty, and between the sloping ascent and the south wall twelve cubits and a half. From the north wall of the court to the wall of the altar, which was the breadth, was sixty *cubits* and a half, and corresponding to it from the wall of the porch to the east wall of the court, which was the length seventy-six.[26]

term מִקְדָּשׁ, *mikdash*, as synonymous with *birah*. Bartenora, in Pesachim vii, 8, and again in Tamid, remarks that "the whole of the Sanctuary was called Birah." The gallery here spoken of, מַסְבֵּה, *ambitus*, *circuitus*, was subterranean, הַקַּרְקַע תַּחַת (Beth Habbec. viii, 7). It opened into the profane part of the enclosure, and was consequently not holy.

[22] A wood fire, מְדוּרָה. *Cf.* Isaiah xxx, 33; Ezekiel xxiv, 9, 10.

[23] *Lit.* honourable, שֶׁל כָּבוֹד. The whole of this section is from Tamid i, 1.

[24] Middoth v, 1.

[25] Middoth v, 1.

[26] In Middoth v, 2, where the measurements of the court from north to south are given, a remainder of twenty-five cubits is said to have been "between the sloping ascent and the wall and the place of the pillars," and Maimonides has allotted one-half of this measurement to the former space, and one-half to the latter, the result of which is to place the central line of the altar nine cubits south of the central line of the door of the Temple and of the court. His authority for this is the Gamara of Yoma 16 *b*, for although R. Judah maintained (*loc. cit.* and Zevach. 58 *b*) that the altar "was placed in the middle of the court, and measured thirty-two cubits, ten cubits opposite the door of the Temple הֵיכָל, eleven cubits to the north and eleven cubits to the south," the

16. All this quadrangle was called "north," and it was the place in which they slaughtered the most holy sacrifices.[27]

17. There were eight[28] chambers in the court of Israel, three on the

other rabbis disputed that opinion, bringing forward the passage in Middoth v, 2, to prove that "the greatest part of the altar lays to the south."

The following are the measurements given by the three chief authorities:—

	Middoth and Gamara of Yoma.	Maimonides.	Rashi.
From north wall to place of the pillars	8	8	8
Place of pillars	12½ (?)	12½	10½
From pillars to tables	4	..	4
Place of tables	..	8	4
From tables to rings	..	..	4
Place of rings	24	24	24
From rings to altar..	4	8	8
Altar	38	32	32
Sloping ascent	32	30	30
Between sloping ascent and south wall	10½ (?)	12½	10½
	135	135	135

According to Maimonides, therefore, twenty-five cubits, and according to Rashi, twenty-seven cubits of the altar were south of the central line of the court. Rashi, in his elaborate note on this subject in Yoma 16 *b*, explains that the northern side of the altar extended just as far as the northern doorpost of the central gates, and that the receding of the foundation and circuit of the altar (Midd. iii, 1) left two cubits on the northern side of the top of the lower gate (that east of the court of the women) not obstructed, and that it was through this small space the priest standing on the Mount of Olives could see into the door of the Temple (Midd. ii, 3). It will be remembered that the summit of the altar was exactly twenty cubits above the floor of the court of the women, and that consequently the aperture of the lower gate was obstructed by it to the top, except on its northern side, if Rashi's supposition as to its position is correct, and on the south of the northern horn where one cubit would be left above the altar, through which a person could see into the Temple if his eye were placed in a line with the lintel or not more than one cubit below it. As to the priest on the summit of the Mount of Olives looking through the gateway, this will appear hardly possible when it is remembered how much higher the Mount of Olives is than the Temple Hill. He must have looked *over* the eastern wall and *over* the lower gate.

[27] Zevachim 20 *a*.

[28] Middoth v, 3 and i, 4, and Yoma 19 *a*. In Yoma the chambers on the north and south are placed as Maimonides here places them, but in Middoth the chambers of salt, of Parvah, and of the washings are placed on the north, and the other three on the south.

north and three on the south. Those on the south were the chamber of salt, the chamber of Parvah,[29] and the chamber of washing. In the chamber of salt they put salt to the offering, in the chamber Parvah they salted the skins of the holy sacrifices, and on its roof was the bathing-room for the High Priest, on the Day of Atonement.[30] In the chamber of washings they washed the inwards of the holy sacrifices, and from it a winding staircase (מסיבה) ascended to the roof of the house of Parvah. And the three on the north *were* the chamber of hewn stone,[31] the chamber of the draw-well, *and* the chamber of wood. In the chamber of hewn stone the great Sanhedrim sat, and half of it was holy and half was profane; and it had two doors, one to the holy and one to the profane *part*, and the Sanedrim sat in the profane half. In the chamber of the draw-well[32]

[29] R. Shemaiah on Middoth (37 *b*) says that the name Parvah was derived from פרים, *parim*, young bulls, because it was the skins of the oxen offered as sacrifices which were salted in it. Baal Aruch quotes from Yoma 35 *a*, "What is Parvah? R. Josef said Parvah was אמגושא, *amgusah*, a magician," and explains "Parvah was the name of a certain *magus*, and some of the wise men say that he dug a hollow place underground in the Sanctuary so that he might see the service of the High Priest on the Day of Atonement; that the wise men became aware of the pit which he had dug in that place, and found him, and that the chamber was called after his name." Maimonides in his comment on Middoth says "Parvah was the name of a magician who dug in the wall of the court in this chamber until he could see the service; and he was killed." Since the service of the Day of Atonement was chiefly performed on the northern side of the court, this story is a confirmation of the statement of Middoth that the chamber of Parvah was on the northern side. Bartenora, quoting Rashi (on Yoma iii, 6), remarks "a certain magician, מכשף, named Parvah, built this chamber, and it was called after his name;" and in his work on Middoth v, 3, the same writer intimates that the chamber was built by magic. Parvah was in the sacred part of the Temple enclosure (Yoma iii, 3, 6).

[30] Yoma iii, 3, 6.

[31] לשכת הגזית. The chamber Gazith. The Gamara of Yoma (25 *a*) says "it was like a large basilica; the lots were on the east, the elders sat on the west," so that its long diameter appears to have been east and west. That one half of it was holy and one half profane is stated on the same page. The reason why the Sanhedrim sat in the profane half is that only kings of the House of David might sit in the court (*loc. cit.*). The Tosefoth Yom Tov (Midd. v, 4) says the chamber of the draw-well was south, and the chamber of wood to the north of the chamber Gazith.

[32] לשכת הגולה. Lightfoot calls it the room of the draw-well, because there was in it a wheel with which to draw water. Middoth (in some copies) speaks of the בור הגולה, the well of the captivity, being placed in it, and this well is said to have been dug by those who came up from the captivity, and to have given its name to the chamber (Bartenora and Tosefoth Yom Tov). This well is mentioned in Erubin x, 14. "They were permitted to draw water from the well of the captivity and from the great well on the Sabbath." R. Shemaiah, in Middoth, says it had sweet water for drinking and a pipe or reservoir, אמת, of water for washing (*cf.* Jer. Yoma 41 *a*, 1). The word גולה, or more accurately

was a well from which they drew by means of a bucket,[33] and thence supplied water to the whole court. The chamber of wood[34] was behind these two. It was the chamber of the High Priest, and is what was called the chamber Parhedrin.[35] And the roof of the three was even. And there were two other chambers in the court of Israel, one on the right of the eastern gate, which was the chamber of Phinehas the vestment keeper, and one on the left, which was the chamber of the pancake maker.

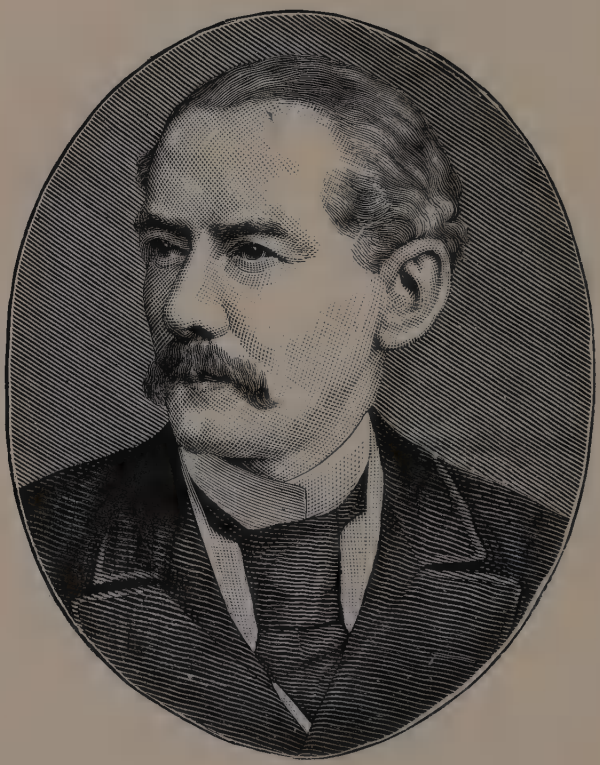
נַלָּה, means also a fountain or source of water (*cf.* Jud. i, 15), and inasmuch as it is taught in both Talmuds (Jerus. Yoma 41 *a* ; Bab Yoma 31 *a* ; Bechor 44 *b* ; Shabb. 145 *b*, and the notes of Rashi, also Maim. Baith Hammikdash v, 15), that the water of the fountain Etham, עיטם, was brought to the Temple, it is not certain that לשכת הגולה should not be translated "the chamber of the fountain." Solomon's molten sea is said to have been supplied from Etham, and the laver to have been filled from it. In Yoma 31 *a* it is said "the fountain of Etham was twenty-three cubits above the level of the court."

[33] נלה is also a jug or similar vessel, *lecythus*, or "a large round basin, עגול ספל גרול" (Tosefoth Yom Tov to Midd. v, 4). Some kind of bucket is here signified by Maimonides, but whether it was of wood, metal, or clay it is impossible to determine. The suggestion of a modern commentator (Mishnaoth Schmid, Vienna, 1835) may here be noted "probably the בור הגולה was a common well with two buckets worked by a wheel, one descending into the water as the other was drawn up."

[34] The chamber of wood is said to have been for storing the wood fit for the altar (Tosefoth Yom Tov to Midd. v, 4 ; *cf.* Midd. ii, 5).

[35] "Seven days before the Day of Atonement they separated the High Priest from his house into the chamber Parhedrin" (Yoma i, 1). "And why the chamber Parhedrin? Was it not the chamber of the councillors? At first it was called the chamber of the councillors לשכת בלווטי = *παστοφερειον των βολευτων*, but because they began to purchase the priesthood with money and to change it every twelve months, as these assessors were changed every twelve months, therefore they called it לשכת פרהדרין, the chamber of the assessors" (*Ib.* 8 *b*, and the note of Rashi). "Rab Papa said there were two chambers for the High Priest; one, the chamber Parhedrin, and one the chamber of the house of Abtinas ; one *being* on the north, and one on the south, *of the court* . . . I do not know whether the chamber Parhedrin was on the north and the chamber of the house of Abtinas on the south; or the chamber of the house of Abtinas on the north, and the chamber Parhedrin on the south, but we are of opinion that the chamber Parhedrin was on the south" (Yoma 19 *a*).

(*To be continued*).



COL. SIR CHARLES W. WILSON, K.C.M.G., C.B., LL.D., F.R.S., R.E.

THE PALESTINE EXPLORATION FUND

NOTES AND NEWS.

WE have received, too late for the *Quarterly Statement*, a most important packet from Herr Schumacher, a note concerning which appeared in the January and April numbers. It contains a map covering about 200 square miles of a part of the Jaulan, that little known and extremely interesting country lying east of the Lake of Galilee, formerly Gaulanitis after the hitherto undiscovered city of Golan (Josh. xxx, 8, and xxi, 27), one of the three cities of refuge in the East. It has been traversed by Burckhardt, Porter, and Welzstein, Mr. Cyril Graham, Mr. Laurence Oliphant, and Dr. Selah Merrill. Herr Schumacher, however, is the first who has surveyed any part of the country, and planned and sketched its ruins. The results of the work are very briefly summed up in the report of the Executive Committee below. He has discovered, almost beyond possibility of doubt, the Biblical Golan. He suggests a new identification for Argob. He has found a vast field containing something like 500 dolmens; he has partially planned the most curious subterranean city of Dera, and he has planned and described all the monuments and buildings in the places which he visited, including the very interesting place round which are gathered the traditions of Job. He has also given a most valuable general description of the country, and has gathered a good collection of Arabic names. It is sufficient commendation of the work to state that its places may be placed side by side with those of Captains Conder and Kitchener in the "Memoirs of the Survey of Western Palestine."

The Committee have decided to produce this work separately and to present a copy of it, post free, to every subscriber of the Fund who may make application for it. A form of application is enclosed. The book will be set up uniform with the cheap editions of "Heth and Moab" and "Tent Work," and will form a volume about half the size of these books. It will be issued with the October *Quarterly Statement.*

We are enabled by the courtesy of the Proprietors of the *Pictorial World* to present with this number a portrait of Sir Charles Wilson, who has now returned from Egypt.

The interest attaching to Herr Schumacher's work will be increased by the paper presented to the Society, and published in this number, by Mr. Guy le

Strange. It is an account of a short journey east of the Jordan, and of a visit to Pella, the Kalat el Rukud, which is outside the part surveyed by Captain Conder; Jerash, the Wâdy Zerka, Yajuz, and Ammân. Mr. le Strange carries with him in his Eastern travels a rare acquaintance with the works of Arabian and Persian travellers. He has undertaken to translate and to annotate for the Pilgrims' Text Society, the Travels of Mokaddasi.

The notes by Mr. Laurence Oliphant and by Herr Hanauer are curious and interesting. The Rock Altar close to the site of Zorah strongly suggests the story of Judges xiii, 19, and the altar of Manoah. It seems to be, at any rate, of extreme antiquity.

On Sunday evening, June 21st, died suddenly, at his residence in Cheyne Walk, Mr. W. S. W. Vaux, F.R.S., formerly Keeper of Coins in the British Museum, and latterly Secretary of the Royal Asiatic Society. Mr. Vaux became a member of the Committee of this Society on its foundation, May 12, 1865, for the whole period of its existence he remained a member, and attended nearly every meeting of the Committee. His loss is one which will not be easily filled up.

And on Tuesday, the 23rd, died, at his residence at Penzance, another of the Society's oldest friends and supporters, A. Lloyd Fox, a member of the General Committee, and the Society's Hon. Secretary for Falmouth.

Professor Hull's work, "Mount Seir," is now ready. New editions have also been issued of "Tent Work" and "Heth and Moab" at six shillings each.

Light upon the ancient customs of Palestine has been thrown from a very unexpected quarter, namely, Russian Central Asia. Dr. Lansdell ("Russian Central Asia," Sampson Low & Co.) has discovered as far to the east of Palestine as London is to the west, and among an Iranian population, many Semitic customs described in the Sacred Books, especially those written after the Captivity. These customs may have had a common origin, or, as Dr. Lansdell suggests, they may have been taken eastwards by the Ten Tribes.

The income of the Society, from March 17th inclusive, was—from subscriptions and donations £260 9*s.* 6*d.*, from all sources £481 18*s.* 5*d.* The expenditure during the same period was £382 1*s.* 6*d.* On June 24th the balance in the Banks was £351 12*s.* 1*d.*

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

The only authorised lecturers for the Society are—

(1) The Rev. Henry Geary, Vicar of St. Thomas's, Portman Square. His lectures are on the following subjects :—
The survey of Western Palestine, as illustrating Bible History.
Palestine East of the Jordan.
The Jerusalem Excavations.
A Restoration of Ancient Jerusalem. Illustrated by original photographs shown as "dissolving views."

(2) The Rev. James King, Vicar of St. Mary's, Berwick. His subjects are as follows :—
The Survey of Western Palestine.
Jerusalem.
The Hittites.
The Moabite Stone and other monuments.

(3) The Rev. James Neil, formerly Incumbent of Christ Church, Jerusalem.

(4) The Rev. George St. Clair, formerly Lecturer to the Society, is about to organise, by arrangement with the Committee, a course of lectures this winter on the work of the Society.

THE LATE MR. W. S. W. VAUX.

We have to announce the sudden death, at the age of sixty-seven, of Mr. William Sandys Wright Vaux, M.A., F.R.S., the well-known numismatist and Oriental scholar. His long connection with the British Museum, the service of which he entered in 1841, the year after his graduation as B A. at Baliol College, Oxford, and from which he retired in 1870, culminated in his keepership of the Department of Coins and Medals, which he occupied for two or three months short of ten years. As an expert in this sphere of learning, he acted for some time as a joint editor of the *Numismatic Chronicle*, arranged and described for the Society for the Publication of Oriental Text the series of fac-similes of the coins struck by the Atábeks of Syria and Persia, 1848, and, among other learned contributions, communicated to the Numismatic Society of London in 1863 a paper "On the Coins reasonably presumed to be those of Carthage." He was employed from 1871 to 1876 in the compilation of a catalogue of the coins in the Bodleian Library for the University of Oxford. As a scholar of more general and literary activity, Mr. Vaux prepared, in 1851, a descriptive "Handbook to the Antiquities of Greek, Assyrian, Egyptian, and Etruscan Art in the British Museum." He was the author of "Nineveh and Persepolis, an historical sketch of Ancient Assyria and Persia, with an account of the recent researches in those countries," 1850, which reached its fourth edition in 1855, and of which a German translation by Dr. J. T. Zenker was published at Leipsic in 1852. To the series of the Society for Promoting Christian Knowledge, generically entitled "Ancient History from the Monuments," Mr. Vaux contributed two several works—"Persia, from the Earliest Period to the Arab Conquest," 1875, and "Greek Cities and Islands of Asia Minor," 1877. These works, however, by no means exhaust the list of Mr. Vaux's productions, which embrace numerous contributions to the transactions of various learned societies, and especially to those of the Royal Society of Literature, of which Mr. Vaux was for some time secretary. On New Year's Day, 1876, he was appointed to the secretaryship of the Royal Asiatic Society, an office which he held until his death, at his residence in Cheyne Walk, Chelsea, on Sunday evening last. Mr. Vaux, who was the son of the late Prebendary Vaux, of Winchester, Vicar of Romsey, Hants, was born in 1818, and was educated at Westminster and Baliol College, Oxford, where, as already mentioned, he took his B.A. degree in 1840. In the world of learning he was a man of very wide knowledge and of the most varied accomplishments, and he was much esteemed by a large circle of private friends.—*From the Times.*

ANNUAL MEETING OF THE GENERAL COMMITTEE.

The Annual Meeting of the General Committee was held at the Society's Offices, 1, Adam Street, Adelphi, on Wednesday, June 24th, 1885.

The Chair was taken by Mr. James Glaisher.

The minutes of the last meeting were read and confirmed. The Secretary then read the following Report of the Executive Committee :—

"My Lords and Gentlemen,

"Your Committee, elected at the last meeting of June 19th, 1884, have, on resigning office, to render an account of their administration during the past year.

"I. The Committee have held nineteen meetings during the year.

"II. The 'firman' necessary for the prosecution of the Survey of Eastern Palestine is still withheld by the Turkish authorities.

"III. The work of exploration in the Holy Land has been carried on during the last twelve months by Mr. Laurence Oliphant, Herr Schumacher, and Mr. Guy le Strange. The best thanks of the Committee are due to these gentlemen for the valuable reports and papers given to the Society by them ; some of them, including *Notes on the Jaulan* and *Notes on Carmel* by Mr. Oliphant, have already been published in the *Quarterly Statement*. Other notes by the same gentleman will appear in July, together with an account of a journey east of Jordan by Mr. Guy le Strange. The Committee have also just received, and have great pleasure in laying on the table, a really magnificent contribution to the Survey of the East, in a packet of memoirs, plans, and map, from Herr Schumacher. This work, certainly the most important examination, so far as it goes, of the Jaulan district, as yet made by any traveller, is put forward by the Committee with great satisfaction as the principal work of the year. It is proposed to issue this in a separate form apart from the *Quarterly Statement*, and to present it to all subscribers who may desire to possess a copy. The map will be incorporated with the map of the Society, and laid down on the sheets now being prepared by Mr. Armstrong. It covers about 200 square miles; the Memoirs contain a list of Arabic names, a general description of the country with its perennial streams, cascades, forests, villages, roads, and people, and an account with excellent plans and drawings of the villages and ruins in the district visited by Herr Schumacher.

"Among the principal ruins described may be mentioned that called Kh. Arkub er Rahwah, which Herr Schumacher would identify with the Argob of the Bible, commonly placed at the Lejjah. He is supported in this view by the authority of Burckhardt, who maintained that Argob would be found somewhere in southern Jaulan. Important ruins were found in the Ain Dakhar and Beit Akkar. North of the former place is a field of

dolmens, in number not short of 500, called by the natives Kubur Beni Israil—graves of the children of Israel. Ancient stone bridges were found crossing the streams at Nahr el Allan and Nahr Rukkad ; a remarkable altar was found at Kefr el Ma, conjectured by Herr Schumacher to be the Maccabæan Alima. Here a remarkable statue of basalt was also found. In a village called Sahem el Jolan, Herr Schumacher thinks he has discovered the Biblical Golan, which has hitherto escaped identification. The situation, the name, the extensive ruins, and the traditions of the people, all seem to confirm Herr Schumacher's conjecture. The ruins of the remarkable underground city of Ed Dera were examined and planned for the first time, together with the towns and monuments of El Mezeirib Tuffas and Nawar, identified by Mr. Oliphant with the land of Uz ; other subterranean buildings were found at Kh. Sumakh and at Sheik Saad. The rock tomb of Job was also photographed and planned. These Memoirs and Maps may be considered as following immediately on the notes furnished by Mr. Oliphant for the *Quarterly Statement* of April last. The recovery of two important Biblical places, the mass of light thrown upon ancient worships, the great number of ruins planned, and the care and intelligence bestowed upon the whole work, render it incumbent upon the Committee to ask the General Committee for a special vote of thanks to this young explorer, as well as to Mr. Oliphant and Mr. Guy le Strange. It must also be mentioned that Mr. Oliphant has discovered a dolmen in Judæa, where hitherto none had been found. It lies in a desert and hilly part of the country, on sheet 115 of the great map. Another interesting discovery is one made by Herr Hanauer, close to the site of the ancient Zorah, of a rock altar which suggests the passage in Judges xiii, 19 and 20.

"The publications of the year in the *Quarterly Statement* have also included Major Kitchener's important geographical report of the Arabah Valley. An archæological paper by Clermont-Ganneau on Palestine Antiquities in London, and communications from Canon Tristram, Rev. H. Clay Trumbull, Rev. H. G. Tomkins, Dr. Selah Merrill, Dr. Chaplin, Rev. W. F. Birch, Professor Hull, Mr. Baker Greene, and others, to whom the best thanks of the Committee are due. The books published by the Committee since the last meeting of the General Committee are 'Mount Seir' by Professor Hull, and cheap editions of Captain Conder's 'Tent Work' and 'Heth and Moab.' The remaining copies of the 'Survey of Western Palestine' have been placed in the hands of Mr. A. P. Watt, of Paternoster Row, for disposal, subject to the condition that no reduction be made on the original price of the work.

"The Committee have now in their hands the whole of Professor Hull's Geological Memoirs. This important work has been sent to the printers and will be issued as soon as possible.

"An arrangement has been made with Mr. H. Chichester Hart, by means of which we shall be enabled to publish his Memoirs on the Natural History of the Arabah. Herr Schumacher will also, it is hoped, continue his researches as opportunity may offer.

"The Balance Sheet for the year 1884 was published in the April *Quarterly Statement*. The Society received during the year the sum of £5,654, including a loan of £850, and expended £1,851 in exploration, £2,592 on maps and memoirs, £504 in printing, and £618 in management. Since the beginning of the year the sum of £1,224 has been received; exploration has cost £116, maps and memoirs £408, printers £200, and management £346.

"As regards the maps showing both Eastern and Western Palestine with the Old and New Testament names on them, they are now ready for the engraver, but will not be handed to him until Herr Schumacher's work can be laid down on them. Mr. Armstrong has also completed a list of Old and New Testament names with their identifications.

"The Committee have to express their best thanks to the Local Hon. Secretaries, and to all who have helped to spread a knowledge of their work, which, as will be seen from the preceding report, is actively going on, and will continue to do so, as long as any part of our original prospectus remains to be filled up.

"The Committee have lastly to deplore the sudden death on Sunday last, the 21st, of Mr. W. S. W. Vaux, F.R.S., formerly Chief of the Numismatic Department in the British Museum, and lately Secretary of the Royal Asiatic Society. Mr. Vaux has been a member of the Executive Committee since the formation of the Society on May 12th, 1865. There has hardly been a meeting from that date until the last meeting of June 2nd at which he was not present, and his interest in the Society and his watchfulness over the advance of its work have never ceased from the beginning."

The adoption of the Report was proposed by Dr. Chaplin, of Jerusalem, who spoke of the way in which the work of the Society was steadily growing in recognition, and seconded by Mr. Cyril Graham, who bore testimony, from his own experience in the country, to the beauty and excellence of Herr Schumacher's work.

The Dean of Chester proposed the re-election of the Executive Committee. This was seconded by the Rev. Dr. Löwy. Both gentlemen took occasion to speak of the great loss the Society had sustained in the lamented death of Mr. Vaux.

Mr. Henry Maudslay proposed, and Mr. Crace seconded, a vote of thanks to the Chairman.

THE SITE OF EMMAUS.

(*See Quarterly Statement, October* 1884, *April* 1885.)

In reply to Mr. Mearns, I only ask permission to prove my statement that Josephus (Bell. Jud. iv, 1) does interpret *Emmaus* to mean, in the particular place referred to, *Hotwells*. Mr. M. contends "The word he uses is *θερμα, warm baths*, referring to the gentle heat of baths. But if he had meant hot springs he would have used the feminine, *θερμαι*." Whatever the lexicon may say, Josephus leaves no doubt as to his own employment of *θερμα* in the passage before us. His words are: *μεθερμηνευομενη δὲ Αμμαοῦς, θερμὰ λέγοιτ' ἂν, ἔστι γὰρ ἐν αὐτῇ πηγὴ θερμῶν ὑδάτων πρὸς ἄκεσιν ἐπιτήδειος*. Mr. Mearns paraphrases this passage in the following somewhat imaginative manner:—"Josephus says that the meaning of a warm bath was peculiarly applicable to the Tiberian Emmaus; for in it was a spring of hot water *to supply the bath*, and useful for healing. *The historian distinctly says that the name always points to a warm bath.*" (The italics are mine.) If Mr. Mearns reads his authors in this fashion, I think I may safely leave my argument to take care of itself on other points on which he animadverts.

A. Kennion.

ACCOUNT OF A SHORT JOURNEY EAST OF THE JORDAN.

By Guy le Strange.

The impediments which, at the present time, the Turkish Government almost invariably throw in the way of any one who attempts a journey into the country across the Jordan, and having heard of the large sums usually demanded of travellers by the Sheikhs of the Belka under plea of escort dues—emboldens me to offer this present account of a hurried trip through 'Ajlûn and the Belkâ, successfully carried out during the month of November, 1884, without Government permission, tents, baggage-mules, or blackmail. We left Nazareth on the morning of Tuesday, the 11th of November, but, as is often the case on the first day of a journey, the start was delayed by reason of trifles forgotten till the last moment, and, in consequence, the sun was already two hours on its course before we lost sight of the white houses of Nazareth and threaded the ravines down into the plain of Esdraelon. Pella was to have been the end of the first stage, but the sky was clouding up and threatening a deluge ; hence even before we had passed the villages of Nain and Endor it seemed hopeless to attempt getting across the Jordan that day. The rain, however, held off till after lunch, which was discussed on the green bank of Goliath's river, the Nahr Jâlûd, which runs into the Jordan after watering Beisân, and then we walked our horses through the ruin of the beautiful Saracenic Caravanserai overhanging the stream which is known as the Khân el Ahmar, or "the Red." But an hour later, while passing through the squalid village of Beisân, and casting a hurried glance at the imposing and widespread ruins of the ancient Scythopolis of the Decapolis, down came the rain in torrents ; and the sky at the same time displayed such sure tokens of something more than a passing shower, that by 4 o'clock it was determined to seek shelter and a night's lodging in the hospitable tent of an Arab whom we found camped below in the valley of the Jordan.

For about ten hours the rain continued with but little abatement, soaking through the hair walls, and dripping from the roof of our host's abode, and further causing the sheep and goats to be disagreeably anxious to participate with us in the comparative shelter which the same afforded. However, by a couple of hours past midnight the sky was again clear, and I may add that during the remainder of the trip as far as Jerusalem, the state of the atmosphere was everything that could be desired. The late autumn in Palestine, as a season for journeying and exploration, has perhaps some advantages over the spring, if only the traveller be sufficiently fortunate to happen on the six weeks or two months which generally intervene between the early autumn showers and the steady rains of winter, which last do not, as a rule, begin much before Christmas.

In the autumn, the land, having been parched by the summer heats, is of course less green and beautiful than is the case in the early days of spring; but, on the other hand, ruins are no longer concealed by any luxuriant vegetation, and since the coolness of the weather renders a shortened halt at noon a matter of no inconvenience, the traveller can devote to the business on hand all the hours of daylight, which even at this season can be counted upon as lasting from 7 A.M. to 5 P.M. Bedouins in general are of course early risers, and we, their guests, had in consequence no difficulty in getting early into the saddle, so that before the sun had made its appearance above the mountains of Ajlûn we were riding eastwards over the fertile lands of the Ghôr, the Arab name for the mighty "cleft" through which the waters of the Jordan pour. At the present day the country all round Beisân, though partially cultivated, and fetching a certain price in the market, is not to compare with the description that has been left to us of its fertility in the century preceding the arrival of the Crusaders. Mokaddasi,[1] writing about the year 1000 A.D., describes Beisân at his time as being rich in palm trees, and informs us that all the rice used in the provinces of the Jordan, and of Palestine, was grown here. At the present day no rice is cultivated anywhere in this neighbourhood, nor for the matter of that, as far as I know, in any other part of Palestine, and the palm has long been gone from here as from the shores of the Sea of Tiberias, where, according to the geographer above quoted, there might be seen in his days "all around the Lake villages and date palms, while on the same sail boats coming and going continually."[2]

That the bygone prosperity might easily return to this country, should circumstances (*i.e.*, the Government) again become propitious, was an idea that impressed itself on us, each moment the more, while riding over the rich soil, and fording at every hundred yards the streams which here intersect the Ghôr. An abrupt descent brought us in an hour to the Jordan, at a ford where the water scarcely reached the bellies of our horses, and we had the luck to be guided to the right place by three of our hosts of the previous evening, who, mounted on their wirey, bald-tailed mares, and armed with the long Arab lance, had turned out to accompany us during the first few hours of the way. Across the Jordan we suddenly came upon an encampment of black tents, tenanted by kinsmen of our last night's host, and as a consequence were condemned to waste a precious hour while coffee was prepared and ceremoniously drunk, followed by a light repast of bread and sour milk; and hence it was past nine before we reached the ruins of Pella, although these lie but an hour distant from the spot at which we forded the Jordan. As Mr. Selah Merrill very justly observes in the work which, unless I am misinformed, is as yet the

[1] Edited in Arabic by de Goeje (Leyden, 1877), p. 162.

[2] *Op. cit.*, p. 161. A few stunted palms are, however, still to be seen at Kufr Argib and elsewhere on the shores of the Lake (see J. Macgregor, "Rob Roy on the Jordan," 1869, pp. 325, 329; also, "Recovery of Jerusalem," p. 367, in Capt. Wilson's article on the Sea of Galilee).

sole fruit of the American Palestine Exploration Society, "Tabakât Fahl is a beautiful location for a city, and the wonder is that it should have been forsaken." Even after the long summer drought, the springs gushing out among the broken columns and ruins of former splendour, are abundant enough to make fertile all the neighbouring land, which, situated as it is on the upper level of the Ghôr, and 250 feet below the sea, enjoys, perhaps, the finest climate, from an agricultural point of view, that can be found in Syria.

That the Arab name of Tabakât Fahl, the Fahl Terraces, represents the ancient Greek Pella, there can be little doubt. Dr. Robinson, who was the first to make this identification, is no mean authority in such matters, and further, Mr. Merrill, who discusses the various objections which may be urged against this present site, winds up the argument by bringing together a mass of evidence in favour of this being the ancient Pella of the Decapolis, giving citations from the works of Josephus, Stephanus of Byzantium, Eusebius, and others, who treat of the early topography of Palestine.[1] It may be of some interest to add that though the site has, to all appearance, for centuries been abandoned by the Moslems, it is renowned in their early chronicles as being the field which witnessed the great "Battle of Fahl," which, six centuries after Christ, sealed the fate of Byzantine rule in Syria.[2] According to the annalist Tabari, this celebrated victory was gained in the year 13 A.H.,[3] and the geographer Yakut asserts that the Greeks left 80,000 dead on the field.

In the first decades of the Christian era, Pliny, describing Pella, notes its abundant water supply, and in the Talmud this city is mentioned under the name of "Phahil," as having *hot* springs.[4] At the present day, however, the springs, though abundant, are apparently not thermal. We found them icy cold, and perfectly sweet, and on this point it may be added that the Arab geographers never allude to them in their enumeration of the numerous Hammâms of the Jordan Valley. Neglecting the Greek name Pella, the Arabs, according to their wont, revived the older Semitic pronunciation of Phahil, which they wrote Fahil or Fihl. It is of interest here to note that Yakut, in his Geographical Encyclopædia,[5] after stating the correct pronunciation of the name to be "Fihl," continues, "I believe this name to be of foreign origin, since I do not recognise in it the form of any Arab word." And that this Pella was the place which witnessed the Moslem victory over the Greek forces, is placed beyond a doubt by the further statement that "the battle of Fihl, which took place within the year of the capitulation of Damascus, is likewise known under the appellation of the Day of Beisân,"[6] and from Beisân, on the right bank

[1] "East of the Jordan," by S. Merrill (London, 1881), pp. 442-447.

[2] Weil., "Gesch. der Chalifen," I, 40, *et seq.*

[3] Ed. Kosegarten, II, 158.

[4] Conder's "Handbook to the Bible," 3rd edition, p. 315.

[5] "Mo'jam-al-Buldân" (Leipzig), III, 853.

[6] Quoted also by the author of the "Marâsid-el-Ittilâ," ed. Juynboll, II, 336, whose work is a critical abridgment of Yakut's Encyclopædia.

of the Jordan, we had ridden in a couple of hours. Pella, or Fihl, must have fallen into ruin very shortly after the Moslem conquest, as is proved by the absence of all Saracenic remains among those of the Byzantine epoch which cover the ground in all the neighbourhood of the springs. A like fate also befell most of the great Greek cities over Jordan, such as Gerasa (Jerâsh) and Philadelphia (Ammân), where we find little that is Moslem among much that recalls the Christian times. A few generations later, after the third century of the Hejra, the very name of Fihl ceases to be mentioned in the itineraries and town lists of the Arab geographers, and neither Istakhri, Ibn Haukal, nor Mokaddasi (himself a Syrian) take any notice of the place. Still, in A.H. 278, one of the earliest of their geographers, Yakubi, considered it a place of importance, for in his summary of the cities of the military province of the Jordan (*Jond al Urdunn*), after describing such towns as Acre and Tyre, he mentions[1] together Tibnîn, Fihl, and Jerâsh, adding that "the population inhabiting these towns is of a mixed character, part Arab, part foreign" (*al 'ajam*), by which last term, if I am not mistaken, we are to understand the native Greek-speaking Christians who had not been displaced by the immigrant Arabs. Fihl, or Tabakât Fahl, as the place is now called, having thus been left undisturbed for nigh on a thousand years, would doubtless yield a rich archæological harvest to any one who could spend some days among the ruins, and carefully examine the very large number of broken cornices and other carved stones which lie about on every hand. Considerable remains of buildings also, that were once adorned with columns, surround the spot where the springs gush out from the hill-side.

Although the Jordan Valley is elsewhere parched after the summer droughts, the Fihl Gorge was a mass of waving green reeds, reaching higher than a horseman's head, and almost completely masking from view the ruined edifices which lay partially submerged in the running water. Near what must have been a bath—judging from the large piscina—stood a fine monolith in white marble, above 8 feet in height; and among the reeds, a score of yards further down, and nearer the north bank, were two others, rising, each of them, over a dozen feet out of the pool in which they stood. But nowhere did we notice inscriptions. The great centre of population would seem to have been up on the hill-side on the right or northern bank of the stream. Here there are traces of a large necropolis with innumerable sarcophagi lying about on every hand. In most cases these last had been smashed up by iconoclastic treasure-seekers, but some remained almost intact, displaying the Christian emblems beautifully carved in the white stone. One in particular was noticeable from its high artistic merit. The lid of the sarcophagus was still perfect, adorned with three wreaths chiselled in high relief, and between them, in monogram, the  , and the A.Ω. but with no further

[1] "Kitâb-al-Buldân," ed. Juynboll, p. 115.

inscription. Traces of buildings and half-buried columns lie in profusion to the south of the necropolis, on the slope overhanging the green gorge where the stream gushes out, while, doubtless, the precipitous hill which shuts in the left or southern bank of the wâdy, would repay a more detailed examination than any which has as yet been bestowed upon it. Digging would naturally be most desirable here, but much that is interesting might easily be brought to light by any one who would come armed with a crowbar, and give himself the trouble of turning over the drums and the cornices which, to all appearances, have lain in their present position since the days of the Arab invasion; and greatly do I regret that, in our hurried visit, I had neither tools with me, nor leisure time, that would have allowed of a detailed examination of this little visited ruin.

The road from Fahl to 'Ajlûn winds up the steep north bank of the Wâdy Fahl, here running east-north-east into the plateau overhanging the eastern boundary of the Jordan Valley. For the first mile the wâdy is narrow and precipitous, and the road a mere path straggling about the cliffs, a hundred feet above the dry torrent bed; but after passing a curious gap, where two giant boulders on projecting spurs have the appearance of watch towers, the gorge widens and bifurcates, the road taking the branch gulley leading in the direction east-south-east. Since Mr. Merrill has laid such stress on his discovery, in these parts, of the Roman road running between Pella and Gerasa,[1] referred to by Eusebius, and which the American archæologist regards as a final proof that Fahl is Pella, I was naturally on the look-out for traces of the same in the Wâdy Fahl. It is a disappointment for me to have to confess that though evident remains of a paved causeway are found in several places on the uplands above, yet here in the wâdy itself no traces could be discovered of cuttings in the cliff sides. I therefore conclude that the road must have approached Fahl (Pella) down some other gulley.

Three-quarters of an hour after leaving Fahl we had reached the upland rolling plain, intersected in every direction by shallow ravines, and dotted with scrub oak. Before us, in a south-easterly direction, rose the mountains of Gilead; to the right, less than a mile away, and due south, was the village of Kefr Abîl; while on the left, at a distance of a mile and a half, on a low spur, appeared Beit 'Adîs. Skirting the heads of three small wâdies which lead down to the Jordan Valley, our road took a southerly direction for a couple of miles over the barren upland, after which suddenly the path plunged down off this upland into the precipitous gorge, which I believe to be an upper arm of the Wâdy Yâbis. On the height, with a path running up to it from the gorge, lies the village of Kefr Abîl before mentioned, and before leaving the upland plateau, on the very brink of the wâdy, our road passed through remains of former habitations, rendered the more noticeable by the living rock having in many places been cut into to form large square tanks, measuring, roughly,

[1] *Op. cit.*, 357, 445.

in length 10 feet by 8 feet across. These were now filled up with mould so as to be flush with the surface, and have been constructed to serve as vats for oil or wine. The workmanship was assuredly ancient, and such as to do honour to the skill and perseverance of the stone-cutters of Palestine. The wâdy into which the road plunged turned off upwards into the hills in a north-easterly direction, while downwards, towards its outlet, it runs on for more than a mile due south with many smaller wâdies coming into it from the east. In this part both the main wâdy and its tributaries were, at this season, completely dry, though showing clear traces of the rush of spring freshets. The road ran down in the bed of the wâdy, and we followed it for about a mile before turning to the left into a green valley leading up in a south-easterly direction, where nestled the village of Jedaidah surrounded by olive trees and gardens. The natural beauties of this dell, the distant clatter of the two mills which were churning the waters of the brawling stream, the well-tilled fields, and the succulent grass that covered the slopes on every hand, to us invested Jedaidah with all the attributes of a rural paradise ; and it being now past midday we proceeded to recruit exhausted nature with certain of the contents of our saddle-bags, while the nags lunched, even more sumptuously than we, on the fresh grass of the brook side.

Whether or not this be the main stream of the Wâdy Yâbis I was unable to ascertain, for the maps of this district are all remarkably deficient and inexact, and a villager whom I questioned was ambiguous in his replies. But from Jedeidah, as far as we could see, the stream, making a bend at right angles about a mile down the wâdy going due south, turns west again, and forcing its way through the mountains would have every appearance of coming out into the Jordan Valley at the spot where the Wâdy Yâbis is marked on the maps. All this we noted while following the path which led away in the opposite direction, for scrambling up the high spur overhanging the left bank of the stream, we proceeded nearly due east into the mountains along and up the ridge, which forms the southern boundary of the little valley where we had made the noontide halt. The wâdies here begin to be dotted with scrub oak, through which, after riding for a short hour, we came into the olive groves surrounding the hamlet of Urjân. There is collected in this village a population apparently too numerous for the accommodatiom provided by its houses. More than half its inhabitants have turned the caves, which honeycomb the rocks, into habitations, and thus manage to provide themselves with all the comforts of a home in the bowels of the ground. These caverns would seem to be mostly of artificial construction, having squared windows and doors, with properly situated smoke holes, but very awkward for riders, and into which, several times, it was difficult for me to prevent my horse from precipitating himself. These tenements would doubtless prove worthy of investigation by any one who, more fortunate than was the case with myself, shall have leisure to overcome the inhospitable shyness of their present occupants, and thus have the good fortune to gain admittance to these Troglodyte harems.

Beyond Urjân may be said to begin the forest of Ajlûn. At first the

hill slopes, and later on both the torrent beds and the ridges, become covered by oak trees, with an average height of between 30 and 40 feet. In the spring time, doubtless, the ground would be covered with grass and weeds, but now, in the late autumn, nothing was to be seen under the trees but the bare rocks ; still from the thickness of the forest, and the low sweep of the branches, a horseman ten yards ahead was generally completely hidden from view. For a mile beyond Urjân the road keeps along the southern slope of the valley under the trees, leading steadily upward and crossing the entrances of many smaller dells, till finally it turns up one of these latter in a direction south-west by south, and round the upper end gains the summit of the ridge, whence a lovely view is obtained through the oak openings back over the Jordan Valley towards the Dead Sea. A little further on along the ridge, and about three-quarters of an hour after leaving Urjân, we passed a large circular hole in the ground, some 6 feet across, opening down into an immense cistern, now partly choked with rubbish, but the bottom of which was still 20 feet from the surface of the ground. It appeared to be bottle-shaped within, as are most of the cisterns in Palestine. In a southerly direction not far from its mouth, under the trees, were traces of ruined walls, but I was unable to obtain from the guide any information as to the name by which the place was, or had formerly been, known.

Our road still lay along the ridge in a south-easterly direction, with the broad wâdy on the left hand down which behind us lay Urjân, while on the right we were continually crossing charming glades where the oaks ever and again give place to bay trees, and through them a rider obtains picturesque glimpses over the well-wooded hills to the south-west. It was up one of these glades, or rather forming the background of an upland plain closed in on either hand by dark green mountain slopes, that we first caught sight of the Castle of Rabûd crowning a hill-top about three miles away, bearing south-south-west. From this point, which is rather more than an hour distant from Urjân, a direct road, said to be very stony, leads to the Kusr er Rabûd straight up this plain. It was, however, now past 3 o'clock, and the days being short we decided to push straight on to the town of Ajlûn, our night quarters, and put off visiting the castle till the morrow. We therefore turned up the hill-side to the south-east, and on the brow first caught sight of the town far below us, at the junction of three valleys, embowered in its gardens, its minaret and walls already gilded by the rays of the setting sun. An hour's scramble, first round the shoulder of the hill and then over into the valley which comes down on Ajlûn from the north, brought us to our destination, and for the last two miles the road lay through a succession of vineyards among the rocks, where the vines, whose leaves the autumn had turned to ruddy gold, stood out against the darker shade of ancient olive trees. The distance we had travelled perhaps lent a false enchantment to the view, but whether or not this be the cause, Ajlûn has a place in my memory as one of the most beautiful and fertile regions of Palestine that I visited, bearing comparison in this even with those far-famed villages that are watered by the rivers of Damascus. The little town is situated at the junction of three valleys, one coming from the north

down which had been our road; another coming from the west, blocked a couple of miles distant by the spur, crowned with the Castle of Rabûd; while opposite is the valley leading up almost due east on the road to Sûf and Jerâsh. The place contains a mosque with a tall square minaret, of fine workmanship in yellow stone; and this last recalls so strikingly some campanile in the plains of Lombardy, that I am inclined to suppose that we have here the relics of a Christian church, perhaps of Crusader times. The town has an abundant supply of water from a spring which gushes out, not far from the mosque, under an archway of ancient masonry, which rises among ruins of columns and cornices. Modern Ajlûn is, however, but an unpicturesque collection of mud hovels, where the homestead generally consists of an agglomeration of windowless cabins surrounding a dung-heap.

In one of these cabins, having accomplished the ejection of our host's family, we proceeded to take up our night's quarters, and made an excellent dinner off the mutton and rice that had been originally prepared for his own household. It then became a burning question to my two companions whether the hospitality which they in turn were forced to offer to the fleas would allow of their enjoying the solace of undisturbed repose. For myself I was happy in being above such considerations. For, during a late trip across the Haurân, sundry insects pervading the guest chambers of my Arab hosts, having kept me for three successive nights without closing an eye, and further observing myself to be rendered incapable of archæological research through the physical exhaustion brought on by ceaseless scratching, I had, this journey, brought in my wallet a small string-hammock. Now the den in which we were quartered had, like most Arab cabins, square ventilation-holes, left under the rafters on either side below the ceiling. Through two of these holes, from without, I found I could manage to push the straight stems of a couple of long logs of firewood, in such a manner that the ends protruded very appropriately inside, like pegs standing out from the opposite wall of the room; while the logs were jammed and prevented from being drawn completely through the holes by the gnarled and branched portion that remained without. Having thus got my pegs inside the room I proceeded to sling the hammock from them about a yard and a half above my friends and the fleas, and enjoyed thereby undisturbed repose during the night, having first been duly admired by the whole population of the village, who, during a couple of hours, were admitted in rotation to rejoice their eyes at the unaccustomed sight of a Frank in bed in a hammock.

The next morning, the 13th of November, we were up betimes, and after a thimbleful of coffee rode up, going almost due west, to the Kul'at er Rabûd, and reached it in a few minutes over the half-hour. From the Arab geographers quoted on a previous page, I have been unable to obtain any information as to the early history of this splendid fortress.[1] Raised on

[1] I find no mention of the place in the works of Yakubi, Ibn Haukal, Istakhri, Mokaddasi, or Yakut, neither does the name occur in Ibn-el-Athîr's

foundations that would appear to date from Roman days, its bastions and walls bear silent witness to the energy and skill of the Crusading Knights who, during their two century tenure of the Holy Land, erected this stronghold beyond the Jordan to hold the country of Moab and Ammon in awe. The view from its battlements is grand beyond the power of pen to describe. Looking west, the long valley of the Jordan, from the Lake of Gennesareth to the Dead Sea, lay spread out at our feet, with the windings of the Jordan itself glittering among the green brushwood, its surface being already gilded by the beams of the rising sun. Beyond and for a background were the mountains of Samaria, while on either hand lay the well-clothed hills of Ajlûn, now bronzed by the late autumn, and giving back a sheen of almost metallic lustre under the level rays of sunlight that were pouring over them. Eastward at our feet rose up the town of Ajlûn nestling at the bifurcation of the valleys, in its gardens and vineyards; and beyond, some three miles off, white in a green garland, was 'Ain Jannâ, a village on the road to Jerâsh. The castle itself crowns a height, and is surrounded by a deep moat dug out of the rock. Its vaults and halls are certainly some of the finest in Palestine, the masonry equalling that to be seen at 'Athlît, on the sea coast above Cæsarea, which is always quoted as the most remarkable of the Crusading ruins. Kusr-er-Rabûd amply deserves a more extended examination than any that has as yet been accorded to it by travellers. As I have noted above, the foundations of the building would appear to date from Roman days, for on many of the stones used in the lower walls eagles are carved, in low relief, which seemed to me of earlier workmanship than the tenth century. On the left of the gate-house high up in the wall is a tablet bearing an Arab inscription, which I was unable to come near enough to read. My readers will easily believe how about these old walls, thus perched on the mountain-top as a landmark to all the Jordan Valley, and concerning the men who first constructed its dungeons and wells and dark passages, there was an amount of mystery that it would have been most fascinating to have made some attempt at penetrating, had the time permitted of a detailed exploration. But that night we were bound to sleep at, or beyond, Jerâsh, and therefore

voluminous chronicle. However, although unnoticed among the Crusading Castles of Palestine by G. Rey, in his "Monuments de l'Architecture Militaire des Croisés en Syrie," an examination of the architecture and mode of construction has led me to doubt that the building is of purely Saracenic origin. I must state, however, on the other hand, that Burckhardt, who visited the place in his travels and found it occupied by a garrison, writes ("Travels in Syria," pp. 266, 267") that he saw Arabic inscriptions (presumably on the slab in the wall that I was unable to reach) which proclaimed that the castle was built by Saladin. Which too is further corroborated by Abu-l-Feda's Geography, a work of the fourteenth century of our era, where it is stated (p. 245 of the Arabic Text) that the Castle of Ajlûn was built by 'Izz-ed-Dîn Osâmah, one of Saladin's famous captains. Still, in spite of all this, after having examined the place, I must repeat that there is little doubt in my mind that parts of the building date from prior to the time of Saladin or even the first Crusade.

after a hurried visit we reluctantly turned our backs on the castle, and returning through the town of Ajlûn rode on, up the valley eastwards, towards 'Ain Jannâ.

On the right bank of the bed of the brook up which lay our path, and five minutes after leaving the last houses of the town, is a low cavern, used by the natives as a stable for their cattle. As far as we could see it contained no inscriptions or sculptures, and though originally, doubtless, natural, it had been artificially enlarged for the convenience of the beasts, being in most places upwards of 6 feet in height, and running deep into the hill-side for a distance that we estimated at somewhat less than fifty yards, thus affording a large area under cover, that was at the present moment much encumbered with all sorts of refuse. The distance of about a mile and a half which separates 'Ajlûn from 'Ain Jannâ is almost entirely taken up with olive trees, from which the fruit had now (November) lately been shaken; and in the market-place of the latter village we passed three huge caldrons filled with crushed berries set in a little water to simmer over a slow fire, this being one of the methods of extracting the oil. Beyond 'Ain Jannâ the road still continues straight up the valley almost due east, and, on the northern hill slope about half-a-mile from the village, passes beside a couple of rock-cut tombs overhanging the bed of the stream, the second of the two still containing a broken sarcophagus without ornament. A short distance beyond these we come on the source of the brook, where it wells up from a hole under a rock in the middle of the valley. The stream runs down from here through 'Ain Jannâ, and even at this season suffices to water all the lands between this and 'Ajlûn. Above this point, although no water was visible, oak groves of considerable extent lay on every hand, and the path, after traversing a rocky glen where the branches of the trees almost met above our heads, came to a more open space where at a couple of miles above 'Ain Jannâ the roads to Irbid and Sûf bifurcate. Of these we followed the latter, bearing slightly towards the right and in a southerly direction, through park-like glades, and in half-an-hour reached the saddle which forms the watershed between the valleys of Ajlûn and Sûf. At this point a fine view was obtained over the way before us, running through the broad valley winding down towards Jerâsh in a direction a little south of east. The ground about here was dotted with oak trees and scrub, but the growth became smaller and the clumps more sparse the further we left Ajlûn behind, till at last, near Sûf, about three miles from the saddle, the trees had disappeared almost entirely. Before reaching this village the valley narrows to a gorge shut in by white chalk cliffs, and the track, after climbing among those which overhang the ravine to the south, leads suddenly down on the squalid cabins of the inhabitants.

The Sheikh of Sûf has so evil a reputation among travellers for both cupidity and insolence that, it being yet an hour to lunch time, we decided on hurrying on without paying him a visit; but that we did not make some acquaintance with the people of the village was a cause of

subsequent regret to me, when I heard that they held in their hands many of the coins and antiquities which are brought to them for sale by the Circassians who are colonising Jerâsh. There were, in particular, rumours of a pot said to have been dug up in this neighbourhood, and reported to have contained countless gold coins of large size, which same had not all of them, as yet, been delivered over into the hands of the officials of the Ottoman Government, to whom all treasure-trove is lawfully due. The finding of hoards is of by no means rare occurrence in Palestine, where the people have at all times been their own bankers, and have ever preferred confiding their hard-earned gains back to the bosom of mother earth, rather than entrust them, for safe keeping, to friends in whom they could place no trust, knowing well that they themselves, in the like position, would, without a question, deem it imbecile to be fettered by any shackles of honesty or honour. The road from Sûf to Jerâsh, which we travelled over during a ride of rather more than an hour and a half, has been so well described in guide books as to need no detailed notice. For the most part the path follows the hill-slopes on the southern side of the broad shallow wâdy which runs down in an easterly direction till it joins that wherein lies Jerâsh, which is a valley joining it from the south. Shortly after leaving Sûf, far down to the left of the road and on the northern hill-slope, a ruin was pointed out to us by our guide which our time did not permit of our visiting, but as he assured us that it was the remains of some ancient, edifice it may perhaps repay the examination of some future traveller with leisure at command. Even before reaching Sûf, as noticed above, the aspect of the country had changed. The thick oak forest, which is so characteristic of the Ajlûn hills, had been replaced by single stunted trees, pines and scrub oaks, dotted sparsely over the hill-sides; beyond Sûf the slopes became almost bare, and in all the country to the east and south of Jerâsh the land is for the most part treeless, and only an occasional pollarded oak cuts the sky line of the hill-top.

Riding across the hills from Sûf, Jerâsh becomes visible from the village of Deir-el-Leyyeh, a couple of miles from the ruins, which are seen spread out below in the broad valley running north and south. From this upper point, where, at the bottom of a hole in the rock, there is a spring, all along the road lie fragments of sarcophagi and carved stones, showing how extensive must have been the suburbs and necropolis of the Roman city. Jerâsh, or Gerasa, has been too often and too well described to require more than a passing notice in these pages. At the time of our visit the Circassians had possession of the place, but had fortunately taken up their abode on the left bank of the stream, where the ruins are comparatively insignificant, and they had not as yet begun to meddle with the magnificent theatres, colonnades, and temples crowding the right bank, and which are, Palmyra perhaps excepted, the most extensive and marvellous remains of the Græco-Roman rule in Syria. The prosperity of the town, despite its fine situation and plentiful water supply, diminished considerably after the expulsion of the Byzantines. The locality, however, is mentioned by Yakûbi, a couple of centuries after the Moslem conquest,

as being in his time one of the towns of the Jordan province: and again the poet al-Mutanabbi, one of the most celebrated of those who flourished at the Court of Baghdad, in a panegyric, devotes some lines to the praise of the fertility of the Crown domains at Jerâsh. But, except for such incidental notices, if I mistake not, the city is rarely mentioned by the subsequent Arab geographers and historians; though Yakût, in the thirteenth century A.D., who had not himself visited the spot, writes that it was described to him by those who had seen it as "a great city, now a ruin, . . . through which runs a stream used for turning many mills; . . . it lies among hills that are covered with villages and hamlets, the district being known under the name of the Jerâsh Mountain."[1] Whatever may have been the original cause of its depopulation, it is very noticeable that the ruins of Jerâsh up to the present day have been but little disturbed. There has never been any great Moslem city in its neighbourhood, and hence its columns remain *in situ* or, thrown down by the earthquake, sprawling along the ground, while the stones of the Great Temple of the Sun and of the theatres are fortunate in having been, as yet, unpilfered for building material. Further, since there is in these regions no sand to drift over and veil the outlines, and the frequent drought preventing the ruins from becoming masked by vegetation, all that remains stands out, white and glaring, in noontide, having that same appearance of recent desolation which is so striking a characteristic of the freshly cleared streets of Pompeii.

After lunching on the bank of the stream, among the gigantic oleanders that, still in November, were covered with delicate pink flowers, we passed the afternoon riding about, examining the ancient city, combining archæological investigations with the keeping of a good look-out against prowling Circassians, and at sundown proceeded out of the southern gate, past the circus, now a meadow, and through the fine Triumphal Arch at the town limit. Here turning to the left, we crossed the stream at the mills and began to climb the conical hill on which stands the Moslem village and sanctuary of Neby Hûd, where it was determined to claim for ourselves hospitality, and safe night quarters for our horses, against the thievish propensities of the Christian Circassians.

The view from this high point is extremely fine, and embraces all the valley and ruins of Jerâsh looking north. While the guest-room was being swept out the elders came round and discoursed on their grievances, against the Government in general, and their new Circassian neighbours in particular. These last are a thorn to the Moslems in their agricultural operations, and further debar them from poking about for treasure among the vaults and cisterns of Jerâsh, a city built, as one of the sheikhs was good enough to inform me, by his own ancestors, the 'Adites, of the Days of Ignorance. After supper till near midnight had we to listen to and discuss politics with these worthy people, among whom the arrival of a traveller is a rare accident, and we three being Christians and they

[1] *Op. cit.*, II, 61.

Moslems, points of religion were often incidentally touched upon to the exceeding happiness of our Arab guide, who was a red hot Protestant and polemic. Despite religious differences, however, we remained excellent friends, and ultimately all slept together in the guest chamber, the party consisting of our three selves, the sheikhs, and the children. During the night an occasional dog chased goats over our prostrate forms, and the fleas hopped about merrily, which combined prevented our oversleeping ourselves. Hence by half-past six next morning (Nov. 14th) we had saddled our horses, and, breakfastless, were off for 'Ammân, to which place it had been determined to proceed by the direct road across country, without going first south-west to Salt and thence back south-east to Ammân, the route generally followed by the caravans. This direct road is hilly, and there have to be crossed numberless valleys, which from the east intersect the tableland lying between Jerâsh and Ammân ; it is but little used, and, as far as I could learn, has been seldom described by previous travellers. To us its being the less known was, of course, a recommendation ; besides, as we had no wish to excite the attention of the officials of the Belkâ, it was perhaps as well to avoid visiting Salt, the residence of the Governor of that province.

Starting from Neby Hûd in a south-easterly direction, after half-an-hour we crossed at right angles the Wâdy Riyâshî, running south-west, and down which lies the direct road to Salt. At the point where we forded the brook is a ruined mill almost hidden in the mass of oleanders and fig trees bordering the bed of the stream, which, it is said, joins the Jerâsh river a short distance before this latter itself falls into the Zerkâ. We, however, turning towards the south, left the Riyâshî behind us, and making our way up the hill slopes above its left bank, here most refreshingly dotted with scrub oak, in rather more than half-an-hour had gained the summit of the watershed which divides the valley of Jerâsh from that of the Zerkâ. The saddle across which the road lay commanded a fine view on either hand, the summit being marked by a cairn of stones a dozen feet high, erected to mark the spot where a celebrated chief had been slain. From here to the right, westwards, there was visible the lower part of the valley of Jerâsh, separated from us by several ranges of bare hills. To the left, and in front towards the south, lay the hills of the Belkâ, cut off from us by a deep gorge, at the bottom of which, as yet unseen, ran the Zerkâ, the Biblical Jabbok, in ancient times the boundary between the territories of Og, the King of Bashan, and of Sihon, King of the Amorites, and still to-day the limit to the north of the Belkâ province. The hills all round were barren and stony, here and there a pollarded oak struggled for existence against the drought and the loss of its branches, which the Bedouins cut off for fuel, and everything seemed lifeless and forlorn, until suddenly, as we were making our way down a steep spur to the bed of the Zerkâ, we came on an encampment of three black tents, hidden away in a delicious little dell, down which went brawling a tiny stream. The Bedouin men were all away with the flocks, but the women received us hospitably, started coffee-making, and the

while were profuse in advice and directions as to the road we were to follow. They belonged, they said, to the Khaza 'Ali, a branch of the Beni Hasan, one of the great tribes of the Belkâ, and seemed in comfortable circumstances. Very pretty striped carpets of goat hair were spread for us to sit on in the shade of the goat-hair walls, and though our hostess was more remarkable for her perpetual chatter than for graces of person, she seemed extremely proud of the rings which adorned both thumb and little finger of her right hand and the two big toes of her feet. What between conversation, coffee-making, and the setting before us of bread and milk, it was fully an hour before we could tear ourselves away from our gossiping hostess, but at last we set off again up the hill spur, and then began once more zigzaging downwards. A final scramble brought us into a small amphitheatre debouching on to the river, the slopes of which were covered with the curious shrub called by the Arabs "Yenbût," its long fleshy green twigs or leaves, of the thickness of crotchet needles, brushing against our faces as we pushed our way through the tangle.

The bed of the Zerkâ, at this season only some three yards broad, and barely a foot deep, is bordered with the "Daflah," or oleander, still showing an occasional pink flower among its dark green leaves. The sides of the gorge in which the river runs are here extremely steep, in places almost perpendicular, and while further to the west, down the river, the valley appears to open out, up eastward the mountains on either hand closed in more and more, till in the extreme distance the stream makes its way out of a gigantic cleft where high precipices would seem almost to meet a thousand feet above the water. At the spot where we now crossed, the Wâdy Zerkâ has a level pebbly bottom above two hundred yards across, which during the freshets must be almost totally submerged. Riding straight across this we proceeded to pick out a torrent bed among the many that cut through the cliffs overhanging the river on the south, and after half-an-hour's climb up a very steep wâdy, we were again on the high uplands, whence, looking back over the gorge, we could trace our late route among the hills of Jerâsh. Continuing on through a broad upland valley dotted with trees, before long there appeared a small village of mud cabins,—among which was a blacksmith's shop in full blast,—clustering together under the shade of a grove of oaks, many of them of no inconsiderable size. The place is called 'Alûk, and is situated about two miles distant from the Zerkâ, due south of the spot at which we came across the river. From 'Alûk the road towards 'Ammân first runs due east for a couple of miles over the upland, crossing every now and again the head of some wâdy running down towards the left into the gorge of the Zerkâ ; and finally, bearing round towards the south, crosses a hill shoulder from which back over the gorge and the hills the white dome of Neby Hûd can be made out in the far distance. The country over which we were now travelling may be described as a rolling upland cultivated in patches by the Bedouin, and in places overgrown by brushwood, scrub oak, and yanbût. Among these hollows and hills we frequently lost our way and wandered about till set on the right path by chancing to stumble

on some small camp of black tents, occupied by the women who were herding the camels in the absence of their lords.

Several times in this part of the country we passed "Arab circles" of small boulder stones, and on one occasion, under a fine Butm tree, came on what was evidently the tomb of a much respected sheikh, to judge from the corn measures and the plough which had been deposited within the circle of the shrine for safe keeping. About four miles from Alûk, and roughly to the south-east of it, topping a low hill over which lies the road, are the ruins of a building that was originally constructed of squared stones, but of which nothing is now traceable except the general rectangular plan. The place is known by the name of Sarrûj, and is used by the people as a storing place for grain. Some Arabs who were here, occupied in cleaning corn, invited us to go on to a large encampment of their tribe, the Beni Hasan, which they pointed out in a hollow a mile further off. Here the black tents, fifteen in number, and of the largest size, were pitched in two lines facing east. On stopping to inquire and give the news, we were requested by the sheikh to administer relief to an unfortunate Arab who lay at the back of the tent suffering from failing breath, in what appeared the last stage of consumption, a disease that is said to be of no uncommon occurrence among the Bedouin. The case, however, as far as we could judge, was beyond the reach of medicine, and there was no physician among us, so with expressions of sympathy, and a few general directions as to the patient's comfort, we took leave and continued our way up over a hill to the south-east, from whence was overlooked a broad shallow valley, not unlike that in which is situated Jerâsh. This valley, the drainage of which is towards the north, runs up at a very slight gradient in a direction almost due south, for over six miles. It is called by the Bedouin of the Beni Hasan, Wâdy Khallâ, or Khallî, and affords good pasture to their herds, which find water at several shallow wells that occur in its bed. The sheep and goats that are here met with are of a remarkably fine breed, large in size and having heavy fleeces. The bell-weather of each flock is distinguished by a sort of crown of gaudily coloured feathers attached to the back of the neck just behind the ears, the wool in its neighbourhood being further dyed red with henna. As we proceeded up this valley, which is everywhere dotted with oak trees and thorn, there appeared a ruin on the right hand, high up the slope of the hills shutting in the valley from the west, where by our glasses we could perceive, as we thought, the remains of walls. It is known by the names of Khurbet-er-Rumanèh and Khurbet-el-Bireh, but being much pressed for time it was found impossible to visit the spot, which, further, our guide assured us, was at the present day but little more than a heap of stones. A short distance beyond, where we lost sight of the ruin, the valley takes a sharp turn to the right, and then back into a south-westerly direction, which following we soon after turned up into a branch wâdy coming in from the west, and happily came to the main encampment of the Beni Hasan, it being already two hours after midday. Here twenty-four long black tents, pitched in double row,

took up the whole of the floor of the wâdy, and to that of the sheikh, conspicuous by its superior size, we proceeded to pick our way over the tent ropes, and made ourselves the recipients of Bedouin hospitality.

First came the customary thimbleful of coffee—roasted, pounded, and boiled up in our presence; then followed a more substantial repast of excellent new Arab bread—resembling thick pancakes—which was seasoned by being dipped bit by bit in a bowl of melted butter; then coffee once more, and in an hour we were on our road again, having given our hosts the latest items of political news, and received from them in return minute directions as to the path. Returning back into the main wâdy, the track runs up it some little way, and then turning south-west crosses a low shoulder. From this point there is one road leading almost due west, up a wâdy, going direct to es Salt, while that towards Ammân keeps on in a south-westerly direction over the rolling country, and cuts across many minor wâdies that run down from the east. Near the point of bifurcation of these two roads there is a small clump of Butm or Terebinth trees, at the foot of which are lying the shafts of two broken columns. The larger of them is a monolith some 9 feet long, and is cut out of the piece in such a manner that the base, 4 feet high and about 2 feet in diameter, tapers down to the shaft of half this size, the whole being very neatly executed in white limestone. A mile further on again, where the road runs along the western slope of a shallow wâdy, we passed fragments of six more broken columns of about the same size as the above, but since no further trace of any temple or building was to be seen in the neighbourhood, one is lead to the supposition that these fragments have at some period been transported hither from the great centre of ruins at Yajûz. We were now travelling along a raised causeway, the remains of a Roman road, running over the undulating plain, which is covered here and there by patches of corn land, and after a couple of miles our horses began to stumble among stones of Yajûz; but as the sun had already gone down, archæology was out of the question, and it was necessary to discover, without further delay, the whereabouts of the Bedouin camp in which it was our intention to pass the night. Turning, therefore, off the road at right angles towards the west, a goatherd directed us to a slight depression in the plain where, after twenty minutes riding, we came suddenly on about a dozen tents of the Beni Adwân, and without unnecessary ceremony pressed ourselves on the hospitality of the somewhat surly sheikh. The night was bitterly cold, and, what between the wind and the fleas, and the extremely confiding nature of the ewes, who, for warmth's sake, were always trying to insinuate themselves beneath our blankets, sleep was fitful. Further, and as usual, till far into the night, our Arab friends discussed in strident tones politics and finance, for, as every traveller knows to his cost, these worthies have such a habit of sleeping at odd hours during the day, that at night being wakeful, they are sadly addicted to interminable discoursings. Discomfort only ceased with the dawn-chill, and, being up betimes, when the sun rose in splendour over the rolling uplands, here in most parts covered with the growth of a plant resembling heather, we were already on

our way back to the road into Yajûz, out of which we had turned the night before.

At the entrance of the ruins is a large clump of some of the finest Terebinth trees that ever I came across. In their immediate neighbourhood is a large Arab cemetery, the most prominent tomb of which is that of Nimr ibn Gobelân, a sheikh of the 'Adwân, whose death, according to the inscription on the headstone, took place A.H. 1238, *i.e.*, some sixty and odd years go. His memory is still held in awe among the Bedouin, as is proved by the numerous ploughs and other farm implements that lie round his tomb, left there for safe keeping, as in a sanctuary. One of the 'Adwân, our host of the previous night, who accompanied us a short distance on our journey, informed me that this spot is known under the name of A'deyl, and is considered distinct from Yajûz, the ruins of which extend from it eastwards for more than a mile. These ruins, now known by the Arabs under the above name, have been so fully described in their respective works by Mr. Oliphant and Dr. Merrill[1] that further details may be deemed superfluous. It is noteworthy, however, that all attempts at identification seem to have failed, although the extensive remains of carved Byzantine capitals, squared blocks, and the foundations of numerous edifices which crowd both sides of this broad upland valley would lead us to conclude that there must have existed here a very populous town during the Græco-Roman period. It may be worth noting that in the lists of the Arab geographers there is no mention of the name Yajûz; nor was there in the days of the Caliphate, so far as I can discover, any considerable town that agrees in point of situation with the site of these ruins. The caves with which the hill slopes are honeycombed are still used by the 'Adwân as granaries, but apparently no settled inhabitants are found in the neighbourhood.

After spending some time in riding in every direction over these interesting remains, and seeking in vain for anything in the way of an inscription or a date, we proceeded in a south-easterly direction, still over a rolling country that showed ever and anon patches of cultivation. The shallow wâdies that the track crosses for the most part run down towards the east, presumably into the depressed plain of El Bukeia; however, for some miles round the whole district here about is known under the name of Yajûz. Half-an-hour after leaving the ruins we passed a large nameless heap of disjointed but squared masonry, lying in the shade of some Butm trees growing on a hill slope facing the north. From here the path, turning up the wâdy towards the east, crosses some low hills, and finally surmounting the crest, leads down into a curiously long and narrow plain: apparently the bed of an ancient lake, as I should judge, analogous to that which once filled the depressed plain of El Bukeia, lying some miles over to the north-west of our present point. Wending down the slopes which, just before reaching the level, showed successive lines of pebbly beach and water-worn banks, we descended to the ancient lake bottom, here some 400 yards broad, and as even as a billiard table. The Arabs of the

[1] "Land of Gilead," p. 227, *et seq.* "East of the Jordan," p. 273, *et seq.*

Adwân call this tract of land Hemel Belka, and cultivate the rich alluvial soil in patches, raising crops of wheat and maize (*durra*). From the point we struck it, the plain extends for the distance of about a couple of miles due south, having an average breadth that might be estimated at a quarter of a mile, and then bears off in a south-easterly direction, draining down in all probability into the Zerkâ Valley, which, according to the maps, curves round towards it. Where the angle occurred we came up out of the narrow plain, and striking over the hills to the south-south-west passed another nameless ruin, where confused heaps of masonry are crowned by a few small, but most elegant, oval arches, which passed, once again we found ourselves on the upland plain that trends down south towards Ammân.

The land here, after the early rains, was undergoing the process of being ploughed and sown by the Fellahîn of the Beni Adwân. At one moment we could count above thirty yoke of oxen, and the wonted stillness was agreeably enlivened by the shouts of the ploughmen, who, in more than one case, were engaged in directing the capricious evolutions of camels that had been compelled to take the place of the more docile steers. Considering the ungainly size of the camels and the diminutive wooden plough to which they were so clumsily harnessed, it was assuredly a marvel of skill that the furrows ran in passably straight and parallel lines. The camels evidently loathed the business, and to judge by the objurgations of their drivers—who were continually calling heaven to witness that their (the camels') clumsiness was the natural consequence of a dissolute life and a disreputable ancestry,—the camel-men themselves were not enamoured of their job. For a considerable time we passed patch after patch being ploughed in this fashion, and riding over a treeless plateau at length struck back into the high road running south-east from Yajûz to 'Ammân, which we had left to our right in turning off to visit the ruins and the Hemel Belka. After this, very shortly came a rather steep wâdy in a cross direction, running due east, down which the path led, and in a few minutes more we found ourselves for the second time in the Valley of the Zerkâ, and the ruins of 'Ammân were before us.

In these notes, however, the ruins being fully described in all the guide books, it would be waste of time attempting to recall the wonders of Greek architecture that have hitherto lain peacefully entombed beyond the Jordan, but which are now given over by the Ottoman Government to be a habitation for Circassian colonists. At the house of one of these worthies, while being hospitably entertained with tea and new bread, I endeavoured, but in vain, to gain some information concerning the whereabouts of the curious subterranean city of Rahab that Mr. Oliphant, in "The Land of Gilead," reports having heard spoken of as existing in the country to the east of the Zerkâ. All we could learn was that some people had heard tell in stories of this place, but no one at 'Ammân had seen the spot or knew of its exact position. As confirming these somewhat vague notices, it may be, perhaps, worth while to draw attention to the account which Mokaddasi, in the beginning of the eleventh century A.D., gives of a remarkable

cavern in these parts. After describing 'Ammân, where he notes "the Castle of Goliath on a hill overlooking the city, and also the tomb of Uriyyâ (Uriah ?), over which stands a mosque,"[1] he continues: "About a farsakh (three miles) distant from 'Ammân, on the border of the desert, is the village of ar-Rakîm. Here is a cave with two gates, one small, one big, and they say that he who enters by the larger gate is unable to pass by the smaller. On the floor of the cavern are three tombs, concerning which Abul Fadl Muhammed ibn Mansur has related to me the following, on the authority of Abu Bekr ibn, &c.," and after giving his chain of authorities, which reaches back to 'Abd Allah, the son of the Khalif Omar, he reports how the Prophet had said that these were the tombs of certain pious men, who, seeking shelter from the rain, had entered this cave and been shut in by the fall of a rock which blocked up completely the entrance. The impediment, however, was miraculously removed by the hand of the Most High, on their calling to Heaven for aid, and every man conjuring the Almighty, and resting his claim on the virtue of some especially pious act performed in past times. The legend is here not to the purpose, and is besides too long to quote in extenso, it being merely another version of the story of the Seven Sleepers of Ephesus, whose adventures form the subject of a portion of the eighteenth chapter of the Koran; but as confirming the reported existence of some large cavern or underground city in the neighbourhood of 'Ammân, the account is curious, and it shows at how early a date such a report had obtained currency.

From 'Amman it was our intention to get across to Jerusalem, *viâ* Arâk el Emir, but since the route is well described in the invaluable Bædeker, no detail of distances and directions need here be given. Riding up the bank along the now diminutive stream of the Zerkâ, we passed an abundant spring that forms one of its sources, and climbing the northern side of the wâdy gained the treeless upland plain stretching westward. Over this, a ride of two hours brought us to the cleft of the Wâdy Sîr, a well-wooded ravine that drains into the Jordan Valley, and in which, but still some miles lower down, lie the remains known as 'Arâk el Emir. At the spot, where we left the bare upland plain to plunge into the green wâdy, the ruins known as Khurbet Sâr are but a short distance to the left, while across on the opposite side there were visible the mouths of several small caverns or chambers hollowed in the face of the cliff, and we noticed other specimens of these abodes of bygone anchorites in many places further down the gorge. Half-way down the steep path that leads into the dell there opens out a small plain, at present occupied by some Circassian families, who have built here a village of wattle and dab houses exactly similar to those that are met with in the neighbourhood of Tiflis. But we had to hurry on without visiting them, for the afternoon was waning.

The whole gorge of the Sîr is most beautifully wooded; two mills are turned by the stream that flows through it, and while its sides are almost

[1] Mokaddasi, *op cit.*, p. 175.

everywhere hidden by the dark foliage of the oaks and other forest trees, the margin of the brook is masked by a broad fringe of oleanders that grow here to a height of over 14 feet. In a little meadow, where the cliff on the right bank recedes from the water's edge, and about two miles above 'Arâk el Emir, there is a collection of Arab "circles," of a somewhat abnormal type. The stones are about a foot high, and form the perimeter of a circle that is roughly a couple of yards across. What is unusual, however, is that here the area surrounded by this low circular wall has been roofed over by laying branches rafter-wise, and filling in with straw, the whole being afterwards covered by a coat of clay. There was, as usual, a sort of doorway left in the circle of stones, and in the present instance it faced south. These little buildings have every appearance of being intended for habitations of some sort, only that while the extreme lowness of the roof and the small extent of the covered space would render the ingress of any human being an impossibility, the clean condition of the interiors showed that they were evidently not intended to serve as pens for lambs or other small quadrupeds. Further, our Arab guide immediately recognised them as marking the burial places of sheikhs, reminding us of the very similar, though unroofed circles which we had passed by in the hills on many previous occasions during our journey.

After riding down the Wâdy Sîr for nearly two hours, the path lying sometimes in the very bed of the pebbly brook, sometimes along the meadows which skirted its banks, and at times again threading the copses that overhung its winding course, we came out suddenly into the magnificent amphitheatre of hill-cliffs where is situated 'Arâk el Emir—said to be the remains of the palace which, according to Josephus, Hyrcanus built in 182 B.C., during the last days of his exile beyond the Jordan. In the main the description of the Jewish historian tallies well enough with what we find here of rock-cut caverns, and cyclopean masonry carved with forms of huge animals. It is, however, perhaps a point worth noting, and one that did not fail to strike me when I first came on the ruins of the Kusr-el-Abd, that while Josephus plainly states that Hyrcanus "built it entirely of *white* stone to the very roof, and had animals of a prodigious magnitude engraved thereupon," when we come to examine here the carved blocks, alongside of which the inquisitive traveller feels dwarfed to the dimensions of an insect, we find that they are all, without exception, cut out of stone most remarkably *black*. But as Josephus had himself never visited this place, the error is probably due to his having been misinformed by the hearsay report of contemporary tourists. The remains at 'Arâk el Emir, whatever may be their date, cannot fail to strike the traveller with somewhat of that same feeling of awe which he experiences on standing for the first time beside the huge stones at Baalbek, the platform of Persepolis, or the Egyptian Pyramids. Greek and Roman ruins are dwarfed into insignificance beside these, for they tell of an age when labour and time were held as of no account in the calculations of those who built for themselves such temples, palaces, or tombs. It was with difficulty that we tore ourselves away from these wonderful relics of a bygone civilization. But

already the sun was hiding behind the western hill, and while we were lingering in the artificial caverns high up in the cliff, they became shrouded in gloom, though the bold characters of the Hasmonean inscription on the rock above,—read "Adniah," and said to mean "Delight,"—still stood out distinct in the blush that was already dying from the face of the black masonry in the meadow below.

We had yet to beat up night quarters, and therefore scampering up the shoulder of the projecting spur shutting in the amphitheatre on the south, we crossed into a wâdy known as that of Umm el Madâris, and shortly coming across some homeward-bound cattle were directed by the neat-herd to the encampment of his tribe, the Beni 'Abbâd, located in an adjacent dell. We were now among the wâdies that lead down directly to the Jordan Valley, and just before coming to the tents, while riding over the crest of an intervening spur, suddenly there burst on us a most magnificent view of the Dead Sea, spread out apparently at our feet. From the height, its whole surface, as far as the eye could reach, appeared like a sheet of burnished gold about to become molten, under the rays of the setting sun, whose orb was fast vanishing behind the blue hills of the desert of Judæa; and below, in the foreground, was the opening out of the Jordan Valley, here some ten miles across—Jericho, as a patch of black green foliage, shining out distinct on the further side.

Although the Beni 'Abbâd were hospitable, and their carpets were tolerably free from vermin, the coldness of the night, and the continuous groaning of one of the men who had lately received a spear thrust in his leg, rendered our sleep but fitful. Besides, as usual, our hosts took up the best part of the night detailing their grievances to us, and requested our advice on the important point of how £100 might be obtained on loan to rid them of their enemies. It appeared that certain lands belonging from time immemorial to their tribe, for which, moreover, they held title deeds, had been by Government granted to, and were occupied by, the immigrant Circassians. We suggested that a petition forwarded with the title deeds to the Government would doubtless set matters right, but in reply we were assured that so doing, unless much bakhshîsh went with the papers, would only lead to the loss of the deeds without there being the smallest chance of the tribe obtaining any re-establishment in their rights. Cheaper than this, they said, it would be to bribe the Circassians to decamp and take up their quarters on somebody else's land, and for this purpose a hundred pounds were needed, which we, however, perforce, deeply regretted being unable to put them in the way of obtaining.

Next morning we were up before the sun, for there was the long ride into Jerusalem before us. Distances in the East, even after long practice, appear most deceptive, especially when looking from a height down and across a plain. The Jordan seemed almost at our feet, but it was four hours' good riding before we reached the ford and crossed the swirling muddy stream, which, even at this season, in some places rose above the horses' girths.

When leaving the mountains and riding between the last hill spurs out

into the Ghôr, I judge we must have passed within a short distance of Tell esh Shâghûr, which recent writers propose to identify with Segor, or Zoar, one of the Cities of the Plain. Dr. Merrill, who discusses the question of the site at some length,[1] concludes by stating that to his mind the arguments for placing the Zoar of Lot at the north end of the Dead Sea are convincing, adding, "We present here a few quotations from Arab writers which bear upon this question." But from these "quotations" I venture to think he deduces an erroneous conclusion, through not bearing in mind the fact that the narrow valley leading *south* from the Dead Sea towards the Gulf of Akabah was known to the Arabs as the Ghôr, and hence bears the same name as that applied by them to the Jordan Valley itself running up *north* from that lake.

Whatever may be concluded from the Bible as to the true position of the Zoar of the Pentateuch, a careful examination of the Arab geographers leads me to conclude that they, at least, stuck to the traditions preserved by Josephus, and followed by Eusebius and Jerome, which place Zoar or Segor to the south-east of the Dead Sea. This place, further, is identical with that frequently mentioned under the name Segor by the historians of the Crusades, and is found in many of the itineraries of the mediæval travellers. To the Arab geographers Zughar, the city of Lot, was as well known a place as Jerusalem or Damascus, seeing that the Dead Sea, more generally called by them Al Buhairah-al Muntinah, "The Stinking Lake," has also the alternative name of the Sea of Zughar. Further, it is evident that there were not, for these mediæval geographers, *two* Zughars, for in Yakut's Mushtarik, a Lexicon of Geographical Homonyms, which especially deals with cities of the same name but of different location, the name Zughar does not figure in the list. Turning now to Mokaddasi, who was himself a native of Palestine, and wrote during the century preceding the first Crusade, we find that Zughar (also spelt Sughar) is mentioned as being in his day the capital of the province of the Sharât[2] (which corresponds in general with the ancient Moab), and he cites it as the sole remaining city of Lot, "saved by reason that its inhabitants knew not of the abominations." As to its position, it is described as standing on (or near) the Dead Sea, with the mountains near about it;[3] while that it is to be sought at the south-eastern end of the Lake is shown by the statement that it is one marhalah (twenty-five miles—a day's march) distant from Maâb, a town situated in the desert to the east of Kerak; and four marhalahs from Wailah,[4] the port at the head of the Gulf of Akabah. Also Istakhri[5] and Ibn Haukal,[6] geographers of the generation preceding Mokaddasi, state that between Jericho and Zughar lay "a day's march," and in one case other MSS. give the alternative but

[1] "East of the Jordan," 233, *et seq.*
[2] Mokaddasi, *op. cit.*, p. 155.
[3] *Op. cit.*, p. 178.
[4] *Op. cit.*, p. 192, 249.
[5] Edit. de Goeje, p. 66.
[6] Edit. de Goeje, p. 126.

probably erroneous reading, "two days' march." At this epoch, that is, during the eleventh century A.D., Zughar was a place of considerable trade, famed for its indigo and dates, these last being of exquisite quality, and quoted as one among the eight kinds celebrated in all the countries of Islam.[1] On the other hand, the climate of Zughar was deadly, and its drinking water execrable, "hot even as though it were over hell fire,"[2] and later, when characterising the drinking water of Palestine as generally so excellent, Mokaddasi exclaims,[3] "but we take refuge in Allah from that of Zughar, though the water of Bait-er-Râm is in truth bad enough."

Turning now to the great Geographical Dictionary of Yakut, compiled in the early part of the thirteenth century A.D., we find two long articles, one under the heading Sughar, and another under the alternative pronunciation of Zughar.[4] After quoting the verse of a poet who sings of the "southern region of the Sharât from Maâb to Zughar," Yakut proceeds to give various traditions which connect the town with the history of Lot, and says that its name came to it from one of Lot's daughters. Finally it is stated that Zughar is situated in the neighbourhood of the Dead Sea, in a wâdy; it being three days' journey from Jerusalem, and lying near the frontiers of the Hejâz.[5] Lastly, and not further to multiply quotations, the author of the Meracid, writing about a century after Yakut, after quoting his words as to the position of Zughar on, or near, the Dead Sea, adds that it lies near Kerak.[6]

In conclusion, therefore, and in opposition to Dr. Merrill, I find no authority among such of the Arab geographers as I have read for locating the Zughar or Zoar of their day anywhere but to the south-east of the Dead Sea. For, to sum up their indications, the city stood near the Dead Sea; one day's march from Maâb, the same from Jericho, and four from the head of the Gulf of Akabah; three days' march from Jerusalem, and near Kerak; from all of which it would appear impossible that a town across the Jordan opposite Jericho should be intended; while the assertion that the water at Sughar was execrable, of itself indicates that Tell esh Shâgûr, in the wâdy below Arâk el Emir, where excellent springs abound, can hardly be a satisfactory identification.

From the Jordan ford up to Jerusalem we rode along the beaten track that every Cook's tourist has followed. The ghastly barrenness of the country, and the glare from the chalky hills among which the road winds, renders this one of the most tedious bits of journeying in Palestine, and we were fortunate in being able to accomplish the ride from Jericho to Jerusalem in five hours. It is, however, worth while to come up this

[1] Mokaddasi, p. 470.

[2] *Op. cit.*, p. 178.

[3] *Op. cit.*, p. 184.

[4] Wustenfeld's Yakût, II, 933; III, 396. In the Arab geographers the name is found spelt صغر, Sughar; زغر, Zughar; and سقر, Sukar.

[5] *Op. cit.*, II, 934.

[6] "Meracid-el-Ittilâ," I, 514.

dreary road from the east to catch one's first sight of Jerusalem from the summit of the Mount of Olives. Arriving by the Jaffa road, the Holy City is hidden until you are almost within its gates, but from Bethany the pilgrim rides suddenly into view of this unique metropolis, which, in its entirety, lies spread out at his feet. The week's discomfort in Bedouin tents, and the monotonous ride of the last few hours, had, I think, attuned us all to a just pitch of appreciation, and although rather too hungry and weary for æsthetic raptures, it was some little time before we turned down through St. Stephen's Gate, and sought out our night quarters in the Damascus Hotel.

In concluding these notes, and for the information of those who may have any intention of penetrating into the countries beyond the Jordan, I may be permitted to remind my readers that our journey had been accomplished without paying a piastre to Goblân, the famous (or rather infamous) chief of the 'Adwân, or even in any way gratifying the cupidity of the Sheikh of Sûf—both worthies generally but too well known to those who have left Jerusalem for a trip into the Land of Gilead. And yet we had been able, in the course of six days, to visit the sites of Tabakat Fahl (Pella), Jerâsh, 'Ammân, and 'Arâk el Emir, taking the direct route across country from one site to another, and along roads seldom seen by the ordinary tourist. The secret of our successful raid—for so only can I venture to call it—lay in the fact that, taking neither tents nor servants, we were but three horsemen mounted on inelegant hacks, more useful as roadsters than in any way remarkable for breed, and that one of us was a native of the country, personally acquainted with the Arab sheikhs of the district which it was intended to visit. Lastly, as we took no more baggage than our horses could carry, we, in accordance with that ancient and convenient custom of the Arabs, imposed ourselves nightly as guests in some nomad camp, coming down at the hair-tent of the sheikh, whose honour, forthwith, was engaged for our personal well-being and safety. By this proceeding we avoided the necessity of carrying with us provisions for the road, and dispensed with a baggage animal: and hence our appearance was in no way calculated to excite the cupidity of those whom we met in our journey.

The presence of tents and baggage mules, with the attendant dragoman and zaptieh, are plentiful reasons to explain the costliness of which travellers complain who cross the Jordan and go eastward from the Dead Sea. Any one who is lucky enough to get a native friend for companion, who can keep his own counsel, and wants no escort of zaptiehs, can almost always visit any part of the country beyond the Jordan at very little risk. Only his stay must be so little protracted that the authorities get no news of it, and for this short time the traveller must be content with the nourishment of Arab fare, and such repose as is to be obtained on the hard earth under an Arab tent, where hospitality is alike provided for vermin and for men.

46, Charles Street, Mayfair,
London, *May*, 1885.

NOTES.

I. A Dolmen in Judæa.

Having had occasion recently to ride from Jericho to Nablus, I decided to try and take a short cut from Khurbet 'Aûjah el Fôka (Sheet 15, O *r*) to El Mugheir (Sheet 15, N *q*). It will be seen by a reference to the map that there is no path marked, and that the region to be traversed is a desolate tract, upon which no habitations are indicated. It occurred to me that I might chance to stumble across something of interest in this deserted district, and such in fact proved to be the case. A peasant whom I picked up, tilling his land in the Wâdy el Aujah, consented to serve as a guide, but said that he doubted whether the route would prove practicable on horseback. The ascent from the valley of the Jordan for the first 1,500 or 1,800 feet was one which did indeed tax my horse's powers to the utmost, even without a rider, as it involved a climb by a scarcely perceptible goat path, now up smooth steep inclines of limestone, now over jagged rocks. I then traversed for a distance of about five miles or more, taking the windings of our way into consideration, the wildest and most barren tract imaginable of rocky tableland, here and there intersected by deep wâdies, offering from time to time views of considerable scenic grandeur, and in a north-easterly direction up the Jordan Valley, of great extent. Beyond this there was nothing to vary the monotony of ruggedness, and rarely an indication of a path, the guide simply selecting the line of country which seemed most practicable for my horse. It was while indulging in regrets at having ventured on an experiment which seemed likely to prove so uninteresting, that I made a discovery which afforded me some consolation. On the side of a bare hill I came upon four slabs of stone, which from their size and shape presented all the appearance of being the component slabs of an overturned dolmen—one, which was larger than the others, being about 9 feet by 5 feet, formed in all probability the covering slab. As I am not aware of any dolmen, or remains of one, having been found in Judæa, this would confirm the theory that they once existed there, but that the two Tribes were so scrupulous in their obedience to the order "to overturn the tables of stone," that traces of them have hitherto escaped observation. It is possible that a minute examination of this section of country would reveal interesting remains of early rude stone monuments. I roughly took the bearings of the spot by compass, but the whole place is such a wilderness of rocks that I doubt whether I could find it again. About half-a-mile distant from it I found another evidence of a most ancient period. This consisted of a square enclosure 24 yards each way, formed of huge unhewn blocks of stone, each of a ton weight or more, remaining in position to a height of three courses in some places, in others of two. Within this outer massive enclosure there was a circle formed of smaller stones, 12 feet in diameter, and in the centre of this circle was a single stone, but this consisted now of a large splintered fragment about 3 feet high, and it was difficult to form from it an idea of the original shape of the stone. There were also in the neighbourhood what

appeared to be alignments of stones, and numerous cairns. The spot, as nearly as I can judge, is about two miles to the south-east of El Mugheir. Near that place there is a very good Arab stone circle, with a miniature doorway about 2 feet high, and a horizontal club or lintel, facing west.

II. A Sarcophagus at Zimmârîn.

A few days ago the Jews of the colony of Zimmârîn, in excavating at the base of what appeared to be an artificial mound, suddenly struck a block of cement. Further investigation proved it to be a portion of a thick coating of that material, in which a leaden sarcophagus had been embedded. This was extracted and opened, and found to contain the bones of a human skeleton, and a quantity of dust, which was described to me by a colonist who had seen it as having the appearance of dust mixed with shining particles, which to his imagination resembled gold dust. I have had no opportunity of examining any of this dust, some of which is said still to have been preserved at Zimmârîn, where more accurate information could be obtained as to what actually was found in the coffin, about which there are conflicting accounts. On rumours of the discovery reaching the Caimakam here, he sent to have the sarcophagus brought to this place, where I have examined it. It weighs 250 pounds, is 6 feet 8 inches long, and 1 foot 8 inches in width. Down the whole length of the centre of the lid is an ornamental scroll $2\frac{1}{2}$ inches wide, including the narrow bands which border the design. This is very beautifully executed, and consists of a representation of grape vines, with fruit and leaves and other floral devices. All round the upper edge of the sides of the coffin is a similar border, but it is nearly $3\frac{1}{2}$ inches wide. The artist has avoided repeating himself, and has varied the design, which is in a good state of preservation, so that no two sections of it are similar. The leaden bottom is in places much corroded.

In accordance with the general order regulating the discovery of antiquities, this sarcophagus will be sent to Constantinople. I have every reason to believe, however, that the mound in which it was found contains more, and I hope to be present in the event of further excavations in it taking place, when I shall also have an opportunity of examining the dust which has been already found.

Laurence Oliphant.

THE ROCK ALTAR OF ZORAH.

About two years ago Herr Baurath Schick discovered at a deserted site called Marmeta, situated about a mile to the *east* of the Jewish Refugee Aid Society's settlement at 'Artûf, a remarkable monolith which he believed to be the remains of an old altar.

Some days ago, whilst at 'Artûf, I happened, incidentally, to hear from one of the settlers that another such stone had been recently noticed

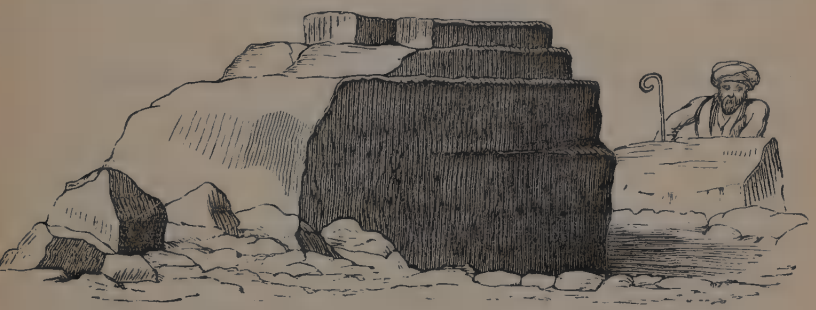


ALTAR AS SEEN FROM N.W.

on a hill-side to the *west* of 'Artûf, and during the afternoon of Friday, May 8th, 1885, I visited the place with Baron von Ustinoff.

Our delight at discovering at the spot indicated a battered and weather-worn but otherwise well-preserved *rock-altar* with *steps* may be imagined.

It has on the top hollows connected by grooves like Mr. Schick's Marmîtah stone. The top is at present from four to five feet above



ALTAR AS SEEN FROM S.E.

ground, but as some heavy blocks of stone which we could not move lie round its base it would not be safe to state any measurements till these and the earth at its base be cleared away.

Zorah, now called Sŭrah, the home of Manoah and the birth-place of Samson, is in full view of the spot, at a distance (measuring on an air-line) of, say, a quarter of a mile. Whether or not this remarkable monument be the identical rock-altar of Manoah (Judges xiii, 19, 20), its existence in such a suggestive situation cannot, I think, fail to rouse the interest of Bible readers.

I am, Sir, yours truly,

J. E. HANAUER.

THE ORIGIN OF THE NAME *EN ROGEL.*

SIR,

Without presuming to express any opinion on the probable correctness of C. R. C.'s suggestion that the name *En Rogel* means "the Spring of the Channel," I wish to point out that in writing the last two lines of his note on the subject in *Quarterly Statement*, January, p. 20, *Jove must have been nodding;* for in making the statement that "the name is evidently derived from the famous rock-cut channel leading from the back of the cave in which the spring rises," C. R. C. has evidently overlooked the fact that *all* the passages in which the name occurs relate to a time antecedent to the earliest date hitherto assigned to the rock-cut channel, and two of them mention the name En Rogel as existing in *the time of Joshua.* Or does C. R. C. really mean to imply that "the famous rock-cut channel" was in existence in Joshua's time?

If not, then the *name* cannot be derived from the *underground* channel.

Perhaps it came from the surface channel whose prior existence is so earnestly contended for by the Rev. W. F. Birch?

H. B. S. W.

BETH HABBECHEREH, OR THE CHOSEN HOUSE—

continued.

CHAPTER VI.

1. THE whole Sanctuary was not on level ground, but on the rising of the mountain. A person entering at the eastern gate[1] of the mountain of the

[1] Rashi commenting upon the passage "no man might indulge in any levity opposite the eastern gate," remarks that this gate was "outside the mountain of the house, in the low wall which was at the foot of the house, on the east, because all the gates were set one opposite the other, the eastern gate, the

house went as far as the end of the rampart (*chel*) on a level, and ascended from the *chel* to the court of the women by twelve steps, the height of each step *being* half a cubit and the breadth half a cubit.

2. And he went along the whole court of the women on a level, and ascended from it to the court of Israel, which was the beginning of the "court," by fifteen steps, the height of each step *being* half a cubit, and the breadth half a cubit.

3. And he went along the whole court of Israel on a level and ascended from it to the court of the priests by a step a cubit high, and upon this was the *dochan* [or desk], *and* in it three steps, the height of each step *being* half a cubit and the breadth half a cubit, so that the court of the priests was two and a half cubits higher than that of Israel.

4. And he went across the whole court of the priests, and past the altar, and between the porch and the altar on a level, and ascended thence to the porch by twelve steps, the height of each step being half a cubit and the breadth half a cubit. And the porch and the Temple (היכל) were all on a level.

5. The floor of the Temple was therefore twenty-two cubits higher than the floor of the eastern gate of the mountain of the house. And the height of the gate of the mountain of the house was twenty cubits, so that a person standing opposite the eastern gate could not see the door of the Temple, and on this account they made the wall which was above that gate low, in order that the priest standing on the Mount of Olives might see the door of the Temple when sprinkling the blood of the heifer towards the Temple.

6. There were there chambers under the court of Israel opening to the court of the women, and there the Levites placed the harps, psalteries, cymbals, and all instruments of music. And upon the *dochan* [pulpit], which went up from the court of Israel to the court of the priests, the Levites stood when they recited songs at the time of the offering.[2]

7. The chambers that were built in the holy part and opened into the profane, if their roofs were even with the floor of the court their interior

gate of the court of the women, the gate of the court of Israel, the doorway of the porch and the temple היכל, and the Holy of Holies in the days of the first Sanctuary, when there was *between the holy place and the most holy*, טרקסין, a partition wall of one cubit (Berachoth 54 *a*). The question whether there were steps up to the eastern gate from the outside or from the gate to the mountain of the house on the inside is not touched by this account of Maimonides. He supposes a person to start from the inner side of the eastern gate, being already on the paved floor of the mountain of the house.

[2] The contents of these paragraphs are from Middoth i, 3; ii, 3, 4, 5, 6, and iii, 6. The *dochan*, דוכן, *suggestum*, was a kind of bench with steps, upon which the Levites or priests stood to sing or read or pronounce the blessing (*cf.* Nehem. viii, 4; Esdras i, 9, 42; Eruchin ii, 6; Sotah 38 *b*). In the modern synagogue the bench in front of the cupboard, where the rolls of the Law are deposited, upon which the priest stands to say the blessing, is still called *dochan*. (See Rubric for the Daily Service and the Service of Rosh Hashshannah.)

was profane and their roofs holy, and if not even *with the court* their roofs also were profane, because the roofs that were raised *above the court* were not hallowed, and hence they might not eat the most holy offerings nor slaughter the less holy upon those roofs.

8. If built in the profane *part* and opening to the holy, their interior was holy for eating the most holy things, but they did not slaughter there the less holy, and the entering there when in a state of ceremonial impurity was permitted, and their roofs were profane for all purposes.

9. Cavities [interiors] opening to the court were holy, and those opening to the mountain of the house profane.[3] The windows and the thickness [*i.e.*, the top] of the wall were like the inside,[4] both with reference to eating the most holy offerings and with reference to impurity.

10. If the consistory[5] desired to add to *the city of* Jerusalem, or to add to the court, they had power to do so. And they might extend the court as far as they chose within the mountain of the house, and extend the wall of Jerusalem to any place they chose.

11. *But* they might not add to the city or to the court, except with the authority of the king, or of a prophet, or by Urim and Thummim, or with the authority of the Sanhedrim of seventy-one elders, as it is said (Exodus xxv, 9), "according to all that I show thee, . . . even so shall ye make *it*," for *future* generations, and Moses our master was a king.[6]

12. And how did they add to the city ?[7] The consistory made two

[3] The question of the holiness of the chambers, roofs, &c., is discussed in M'aasa Shene iii, 8; Pesachim vii, 12; the Gamara of the latter (85 *b*, 86 *a*), and Zevachim 56 *a*. See also Yoma 25 *a*.

[4] This passage is from the Mishna of Pesachim vii, 12, where (according to Rashi and others) it has reference to the wall of Jerusalem, but the Gamara connects it with the *chel*, and quotes Lam. ii, 8, "he made the rampart and the wall to lament." "The wall," says Maimonides, "was the wall of the court" (*vide supra*, v, 3). The Bar Sorah, בר שורא, "son of a wall," is explained by Rashi to have been "a little wall inside the great wall, and on a level with the court." This little wall was doubtless that alluded to by R. Solomon, on Lam. ii, 8, as connected with the *chel* (Lightfoot 1089). The expression in the Gamara (Pesachim 86 *a*) is שורה יבר שורה, "a wall, and the son of a wall," and lends support to the opinion expressed in a former note that the *chel* may have had a rampart and low wall outside the wall of the court. The subject has here reference to the rules forbidding the most holy sacrifices, the less holy sacrifices, and the Paschal Lamb to be eaten if carried beyond certain prescribed limits (*vide infra*, 15). "As anything which should be eaten in Jerusalem became unlawful if taken out of it, so anything which should be eaten in the court became unlawful if taken out of it" (Sheauoth 15 *a*).

[5] Beth Din, בית דין, "House of Judgment."

[6] Sanhedrin i, 5, and 16 *b*; Shevuoth ii, 2, and 16 *b*.

[7] Shevuoth ii, 2. "They added to the city in no other way than . . . . by two thank-offerings, and by music, and by the Beth Din going *in procession*, with the two thank-offerings behind them, and all Israel behind them (the thank-offerings). The inner thank-offering was eaten, the outer burned." The

thank-offerings, and took the leavened bread which belonged to them (Lev. vii, 13), and walked *in procession*, the consistory being behind the two thank-offerings and the two thank-offerings one behind the other, and they stood with harps, and psalteries, and cymbals at every corner, and at every *large* stone which was in Jerusalem, and chanted "I will extol thee, O Lord; for thou hast lifted me up" &c.[8] (Psalm xxx, 1), *and thus they went* until they reached the end of the place which they consecrated, where they stood and ate the bread of one of the two thank-offerings, and the other was burned. And by the mouth of a prophet they burned the one, and ate the other.[9]

13. Likewise if they added to the court, they hallowed it with the remains of the meat-offering. As the *city of* Jerusalem was hallowed by the thank-offering, which was eaten in it, so the court was hallowed by the remains of the meat-offerings, which could not be eaten elsewhere than in it, and they ate them at the end of the place which they hallowed.[10]

14. Every place in the dedication of which all these things and this order were not observed was not completely dedicated. And the two thank-offerings which Ezra made were *merely* a memorial, and the place did not become hallowed by what he did, because there was neither king nor Urim and Thummim. And by what did it become hallowed? By the first dedication which Solomon made, because he consecrated the court (1 Kings viii, 64) and Jerusalem both for that time and for the time to come.[11]

15. Therefore they offered all the offerings, even though there was no house built there, and they ate the most holy things in all the court, even though it was destroyed and not surrounded by a wall, and they ate the less holy things and the second tithes in all Jerusalem, even though there were no walls there, because the first consecration hallowed *both* for that time and for the time to come.[12]

16. And why do I say in reference to the Sanctuary and Jerusalem, that the first dedication hallowed for the time to come, and in reference to the hallowing of the rest of the land of Israel, for the purposes of the

arrangement of the procession is discussed in the Gamara (15 *b*). It is doubted whether the thank-offerings went side by side, or one behind the other: if side by side, the inner one was that next the wall; if one behind the other, the inner one was that next the consistory.

[8] In Shevuoth 15 *b*, from which this passage is taken, the word גדולה, *large*, occurs after stone, but is wanting in Maimonides, probably from an error of the transcribers.

[9] *Ib.* 16 *a*. R. Judah said "by the mouth of a prophet *one* was eaten, and by the mouth of a prophet *one* was burned." The meaning is that a prophet instructed them which to eat and which to burn.

[10] Shevuoth 15 *a*. Rashi notes that the remains of the meat-offering, מנחה, were the cakes which were to be eaten by the priests (Lev. ii, 3, 4, 10).

[11] Shevuoth 16 *a*.

[12] *Ib.* Edioth 14 *a*; Megillah 10 *a*; Zevach. 107 *b*. The Rabbis disputed much as to the perpetuity of the first consecration.

seventh years and tithes and things connected with them, it did not hallow for the time to come? Because the hallowing of the Sanctuary, and of Jerusalem, was on account of the Shekinah, and the Shekinah did not cease. And lo, it says "I will bring your sanctuaries unto desolation" (Lev. xxvi, 31); and the wise men say that notwithstanding that they were desolated, *yet* in respect of their holiness they were yet standing.[13] But the obligations of the land in reference to the seventh years and the tithes were only because it had been subjugated, and after the land was taken from their hands the subjugation ceased, and it became free from the law of tithes and seventh years, for lo, it was no longer the land of Israel. And when Ezra came up and hallowed it, he did not hallow it by subjugation, but by the right of possession, which they had in it, and therefore every place of which those who came up from Babylon had possession, and which was hallowed by the second hallowing of Ezra, that *remains* hallowed *to* this day, and notwithstanding that the land has been taken from them, it is still liable in respect of seventh years and tithes, for the reasons which we have explained in the treatise "Terumah" (offering).

CHAPTER VII.

1. It is an affirmative command to reverence the Sanctuary, as it is said "ye shall reverence My Sanctuary" (Lev. xix, 30). And not the Sanctuary shalt thou reverence, but Him who gave commandment that it should be reverenced.[1]

2. And what was the reverence due to it? A man might not enter the mountain of the house[2] with his staff, or with shoes upon his feet, or with his girdle,[3] or with dust upon his feet, or with money bound in his

[13] Megillah iii, 3, 28 *a*.

[1] Yevamoth, 6 *a*, *b*.

[2] Yevam. 6 *a*, *b*; Berachoth 5 and 62 *b*; Yeruschal Berach xiii, *a*, *b*, 1.

[3] באפונדתו. The Mishna of Berachoth (ix, 5) and Yevamoth 6 *b*, have בפונדתו. The fundah, פונדה פונדא or אפונדה, is frequently mentioned in the Talmud. In Shabbath 120 *a* it is enumerated amongst the eighteen garments which it is lawful to put on or off on the Sabbath. In the gloss on Kelim xxix, 1 (*cf.* Bartenora), it is explained to be an under garment worn next the skin to guard the other garments against the perspiration; and Baal Aruch says אפונדה was "an article of dress, a small shirt in which were sewn many places where they put anything they met with," and from Shabbath x, 2, it appears to have been either a bag or some piece of clothing furnished with one or more pockets. Rashi thought it was "a hollow girdle in which they put money." The expression in the Jerusalem Talmud (Berachoth xiii, *b* 1), that a person might not enter the mountain of the house, אפונדתו עליו מבחוץ, "his *fundah* being on him outside," is suggestive of an outer garment of some kind. It may have been a jacket or spencer worn over the other clothing, or a girdle in which money and other articles were carried, like the *kamar*, كمر, of the modern inhabitants of

linen. And it is unnecessary to say, that it was unlawful to spit in all the mountain of the house, but if one should be obliged to spit, he must do so in his garment. And one might not make the mountain of the house a thoroughfare,[4] entering at one gate, and going out at an opposite one in order to shorten the way, but go round on the outside, and not enter, except for religious purposes.

3. All who entered the mountain of the house entered on the right hand, and went round and passed out on the left, except one to whom an accident happened, who turned to the left. Wherefore they asked him, "what ails thee that thou turnest to the left?" "Because I am mourning." "May He who dwelleth in this house, comfort thee." "Because I am excommunicated." "May He who dwelleth in this house, put into thy heart, that thou mayest listen to the words of thy fellows, that may restore thee."[5]

4. When a man had finished his service and was leaving, he did not go out with his back to the Temple, but walked backwards slowly and went gently sideways,[6] until he issued from the court, and so likewise the watchers and standing men, and Levites from their pulpit, דוכן, went out from the Sanctuary like a person stepping backwards after prayers;[7] all which was to show reverence to the Sanctuary.[8]

5. One might not indulge in levity[9] opposite the eastern gate[10] of the court, which was the gate Nicanor, because it was set opposite the Holy of Holies. And every one who entered the court must walk gently in the place where it was lawful for him to enter, and demean himself reverently as became one standing before Jehovah, as is said "mine eyes and my heart shall be there perpetually" (1 Kings ix, 3), and he went with

Palestine. The word has been supposed to be derived from *επενδυτης* (John xxi, 7), translated in the A.V. a "fisher's coat." The meaning of the passage which Maimonides has here taken from Berachoth (Jerus. and Bab.) is that no worshipper might enter the mountain of the house either with his girdle or other garment in which he carried his money upon him, or with his money tied in a corner of his linen garments, a custom very common amongst the natives of the country at the present day.

The word for "linen" is סדין, translated in the A.V. (Isaiah iii, 23) "fine linen." The English word "satin" is derived from it.

[4] Megillah iii, 3, and the Gamara 29 *a*, where it is said of a synagogue that a קפנדריא, *a short way*, may not be made through it.

[5] Middoth ii, 2.

[6] That is, he must walk differently from his ordinary mode of walking (R. Abraham).

[7] As the custom of the Jews now is.

[8] Yoma 53 *a*.

[9] Literally, might not raise his head in lightness.

[10] Berachoth ix, 5. "One might not raise his head lightly opposite the eastern gate, because it was set opposite the Holy of Holies." Rashi remarks that it was the eastern gate of the mountain of the house. See Note on vi, 1.

fear and reverence, and trembling, as is said, "we walked in the house of God in tumult" (A.V. *in company*, Psalm lv, 14).

6. It was unlawful for anyone to sit in any part of the court. No one had the right of sitting in the court, except kings of the house of David only,[11] as it is said "and David the king came and sat before the Lord" (1 Chron. xvii, 16). And the Sanhedrim who sat in the chamber Gazith sat only in the profane half.[12]

7. And although the Sanctuary is now desolated, on account of our sins, one is still bound to reverence it, as was the custom when it was yet standing. One may not enter except where it was then lawful for him to enter, and may not sit in the court, nor raise his head lightly opposite the eastern gate, as is said, "ye shall keep my Sabbaths and reverence my Sanctuary" (Lev. xix, 30): as the keeping of the Sabbath is perpetual, so likewise the reverencing of the Sanctuary is perpetual,[13] and notwithstanding that it has been desolated, in respect of its holiness it is still standing.

8. At the time when the Sanctuary was standing[14] it was unlawful for a man to raise his head lightly from the *place called* TSOFIM (which was outside of Jerusalem), and inwards, and whoever could see the Sanctuary with no wall intervening between him and it.[15]

9. It was unlawful for a man ever *evacuare alvum*, or to sleep between

[11] Tamid 27 *a*; Sotah 41 *b*; Yoma 25 *a*; Kedushin 78 *b*; Sanhedrin 101 *b*. In the latter place it is "Kings of the House of Judah." It was customary for the king to sit in a pulpit erected for him in the court of the women when reading a portion of the Law to the people towards the end of the first holy day of the Feast of Tabernacles at the termination of the seventh year. It is related (Sotah vii, 8) that King Agrippa "read standing, and the wise men praised him for so doing, and when he came to 'thou mayest not set a stranger over thee,' his eyes overflowed with tears (because he was not a true Israelite), and they said to him, 'fear not Agrippa! thou art our brother! thou art our brother!'" (because his mother was of the seed of Israel), *cf. Sifri*, שופטים, 105 *b*.

[12] Yoma 25 *a*. The elders sat in the western half which opened into the *chel*, חיל, and was consequently profane.

[13] Yevamoth 6 *b*; *cf.* Megillah iii, 3, and 28 *b*.

[14] בנוי, built.

[15] "Tsofim was a place from which they could see the mountain of the house, and from beyond which they could not see it" (Tosefoth Berachoth 61 *b*; *cf.* Pesachim iii, 8). "A person who went out of Jerusalem and remembered that he had with him holy flesh, if he had passed *tsofim* he burned it in the place where he was." Rashi on this passage remarks that *tsofim* was the "name of a village, שם כפר, from which one could see the Sanctuary." "What was tsofim? Seeing with nothing intervening. Every place around Jerusalem from which one could see the Sanctuary" (Tosefoth Pesach. 49 *a*). The word is from the root, צָפָה, to look around, to watch (whence מצפה, *mizpah*, a watch tower). The Greek σκοπη is its exact equivalent. Doubtless the hill called Scopus, north of Jerusalem, is one of the places here referred to. There was a place called Tsofim famous for its honey (Sotah ix, 12).

east and west ;[16] and it is unnecessary to say that they did not erect a privy between east and west in any place, because the Temple was on the west. Therefore they did not ease nature *with the face* to the west, or to the east, because that is opposite the west, but they relieved nature and slept between north and south. And every one passing water from the *tsofim* and inwards, did not sit with his face towards the Temple, but to the north or to the south, or placed the Temple at his side.[17]

10. And it was unlawful for a man to make a house after the pattern of the Temple, an *exhedra* after the pattern of the porch, a court resembling the court, a table of the form of the table of *shewbread* or a candlestick of the form of the candlestick. But he might make a candlestick of five branches, or of eight branches, or a candlestick of seven branches, provided it was not of metal.[18]

11. There were three camps in the wilderness : the camp of Israel, which included four camps ; the camp of Levi, of whom it is said " they shall encamp round about the tabernacle" (Numbers i, 50), and the camp of the Divine Presence (Shekinah, שכינה), which was from the door of the court of the tent of the congregation inwards. And corresponding to them from the gate of Jerusalem to the mountain of the house *was* like the camp of Israel ; from the gate of the mountain of the house to the gate of the court, which was the gate Nicanor, *was* like the camp of Levi ; and from the gate of the court and inwards *was like* the camp of the Divine Presence. And the rampart (*chel*) and the court of the women were an additional excellence of the eternal house.[19]

12. The whole of the land of Israel was more holy than all other lands. And what was its holiness ? That they brought from it the sheaf, and the two leaves, and the first fruits, which they did not bring from other lands.[20]

13. There are ten holinesses to the land of Israel, the one higher than the other. Cities *in it* surrounded by walls were more holy than the rest of the land, because they sent away the lepers out of them, and they did not bury the dead in them unless seven good men of the city, or all the men of the city, desired it. And if a corpse had been carried out of the

[16] That is, with his face to the east and his back to the west, or the reverse.

[17] Berachoth 62 *a* ; Berach.-Yerushal 13, *a* 2, and 61 (60 *a*).

[18] Avodah Zarah 43 *a*. It is doubtful whether it was lawful to make a candlestick of seven branches, even though of wood. R. Jose bar Jehudah said it was not lawful, because the Asamoneans had made one of that material for the Temple. Maimonides gives what he considers to be the decision. His words are עושה . . . . . מנורה שאינה של מתכת אפ"ע שיש לה שבעה קנים, literally, "a candlestick which was not of metal even though there were in it seven branches." The Talmud allows a candlestick of six branches (*loc. cit.*).

[19] Zevachim 116 *b* ; Tosefta Kelim 1 ; *cf.* R. Shimson in Kelim 5 *b*. Also Maim. on the same passage ; Rashi in Sanhedrim 42 *b*. The meaning of the last sentence is, that there was nothing in the camp in the wilderness corresponding to the rampart and court of the women in the Temple.

[20] Kelim i, 6 ; *cf.* Levit. xxiii, 10, 17.

city they might not take it back again, even though all should desire to take it back. Should the inhabitants of the city desire to remove a tomb to without the city, they might remove it, and all tombs might be removed except the tomb of a prophet or a king. A tomb which the city surrounded, whether on four sides or two sides, one opposite to the other, if there was between it and the city more than fifty cubits on this side and fifty cubits on that side, they did not remove it unless all desired *its removal;* if less than that they might remove it *without* the sanction of all.[21]

14. Jerusalem was more holy than other walled cities, because they ate the lesser holy offerings and the second tithes within its walls.[22] And these things are spoken of Jerusalem: they did not allow a dead body to remain all night in it, they did not carry human bones through it, and did not let out houses nor give a place to a sojourning proselyte in it. Also they did not erect tombs in it, except the tombs of the house of David, and the tomb of Huldah, which were there from the day of the former prophets: They did not plant gardens or orchards in it, nor was it sown or ploughed lest it should stink. They did not raise trees in it except the gardens of roses, which had been there from the times of the former prophets, and they did not place dunghills in it, on account of creeping things. They did not make beams or balconies projecting into the public streets on account of the tent of defilement, and did not make furnaces in it on account of the smoke.[23] They did not nourish cocks in it on account of the holy things,

[21] Kelim, i, 7, and the notes of R. Shimson and Maimonides; Jerus. Nazir 57, *b* 2; Tosefta Baba Bathia, 274 *b*. Rabbi Akibah maintained that the tombs of kings and prophets might be removed (*vide infra*). The Jerus. Talmud and the Tosefta allow tombs to be removed if surrounded on four, three, or two sides by the city, and the distance given in the former (Nazir, *loc. cit.*) is seventy cubits and two-thirds of a cubit (Abal Rabathy 14). R. Abraham raises an objection to the opinion of Maimonides that if seven good men of the city desired it, a dead body might be buried within the walls, and says that they did not bury in the cities, but might carry a corpse about the city to do honour to it and increase the mourning, and this latter opinion is supported by the Mishna (*loc. cit.*), מסבבין לתוכן מת.

[22] Kelim i, 8, and the gloss of R. Shimson.

[23] Baba Kama 82 *b*; Yoma 12 *a*; Negaim xii, 4; Tosefta Negaim, 6; Megillah 26 *a*. The reason why Jerusalem could not become unclean from leprosy is that it was not divided among the tribes, and was therefore like cities out of the land of Israel (Negaim, *loc. cit.*); but Rabbi Judah disputed this opinion, urging the tradition that part of the mountain of the house was in the tribe of Judah and part in Benjamin. The tombs of the house of David and of Huldah the prophetess are spoken of in Jerush.-Nazir 57, *b* 2; Tosefta Negaim 6, Tosefta Baba Bathra 274, Avoth Rabbi Nathan 35. R. Akibah said that there was a hollow way or tunnel, מחילה, to these tombs, by which the "uncleanness" was conducted out to the valley of Kedron, and that because of the existence of this the tombs were allowed to remain in opposition to the general law, which, according to him, permitted or required the removal of the tombs of kings and

and also in all the land of Israel the priests might not nourish cocks on account of purity.[24] And there was in it no house for persons condemned as lepers, and it did not become unclean from leprosy. It did not become a city cursed for idolatry, and did not furnish a heifer to be beheaded because it was not divided among the tribes.

15. The mountain of the house was more holy than it (Jerusalem), because men and women that had fluxes, and women at the time of their separation, and after childbirth, could not enter there.[25] It was permitted to take a dead body itself into the mountain of the house, and it is therefore unnecessary to say that a person defiled by contact with the dead might enter there.[26]

16. The rampart (*chel*) was more holy than *the mountain of the House*, because Gentiles and persons defiled by contact with the dead or to whom a certain impurity had happened[27] might not enter there.[28]

17. The court of the women was more holy than the rampart because טבול יום, *tibbul youm* (a person who required washing and the sun going down to purify him from an uncleanness, and who had washed and was awaiting the going down of the sun), might not enter there.[29] And this prohibition is from the words of *the wise men*, but by the Law, התורה it was permitted to a *tibbul youm* to enter the camp of Levi.[30] And if a person defiled by contact with the dead entered the court of the women, he was not obliged to offer a sin offering.

18. The court of Israel was more holy than the court of the women, because מחסרי כפורים, a person whose atonement had not been made after his cleansing from an uncleanness might not enter there.[31] And an

prophets out of the city. (Tosefta, *loc cit.*, Magin Abraham appended to the Tosefta; *cf.* Tosefoth Berachoth 19 *b*, middle of page רוב ארונות.) The sum of the Jewish traditions in reference to these tombs appears to be—(1) that they remained and their locality was known up to the time of the destruction of Jerusalem by Titus (*cf.* Acts ii, 29); (2) that they were within the city; and (3) that they were so situated that a tunnel or gallery or pipe could pass from them to the valley of the Kedron. A garden of roses at Jerusalem is mentioned in Maaseroth ii, 5, the owner of which would allow no one to enter lest the roses should be spoiled (Tosefoth), and who also gathered and sold some figs which grew in the garden, three or four for an *assar*, without paying tithe or bringing an offering from them.

[24] Baba Kama vii, 7.

[25] Kelim i, 8.

[26] Pesachim 67 *a*; Nazir 45 *a*; Sotah 20 *b*; Tosefta Kelim, 1.

[27] בועל נדה.

[28] Kelim i, 8; Tosefta Kelim, 1.

[29] Kelim i, 8.

[30] *Cf.* Yevamoth 7 *b*.

[31] Kelim i, 8. The Mishna enumerates four classes of persons who might be מחסרי כפורים, wanting atonement, viz., men or women with fluxes, women after childbirth, and lepers. R. Eleazer ben Jacob added two others (Kerithoth ii, 1).

unclean person who should enter there was liable to the penalty of cutting off.[32]

19. The court of the priests was more holy than *that of Israel*, because the laity might not enter there, except when it was necessary for them to do so to lay their hands on a sacrifice which was to be slain, or to make atonement, or to slay a sacrifice, or to wave a part of it.[33]

20. Between the porch and the altar was more holy than *the court of the priests*, because priests who had blemishes, or whose heads were bare,[34] or whose garments were torn might not enter there.

21. The Temple, היכל, was more holy than between the porch and the altar, because none might enter there who had not washed their hands and their feet.[35]

22. The Holy of Holies was more holy than *the rest of the Temple*, ההיכל, because none might enter there except the high priest on the Day of Atonement at the time of his service.[36]

23. To the place in the upper chamber which was over the Holy of Holies they did not enter except once in seven years to ascertain what repairs were required! When the builders entered to build or make repairs in the Temple היכל, or to remove thence the uncleanness it was commanded that the persons entering should be perfect priests; if perfect priests could not be found, priests with blemishes might enter, and if there were no priests there, Levites might enter; if Levites could not be found, laymen might enter. The commandment is that they be ceremonially clean. If none in a state of purity could be found, unclean might enter. If the choice lay between an unclean person and a person with a blemish, he with a blemish entered, and not he that was unclean, for uncleanness unfits for service in the congregation.[38] And all who entered the Temple, היכל, to make repairs entered in boxes. If there were no boxes there, or if it was not possible for them to do the work in boxes, they entered by way of the doors.[39]

[32] Tosefta Kelim 1. There were thirty-six offences by which the penalty of cutting off was incurred (Kerithoth i, 1).

[33] Kelim i, 8.

[34] Kelim i, 9.

[35] Kelim i, 9.

[36] Kelim i, 9; Pesachim 86 *a*.

[37] Tosefta Kelim 1; Pesachim 86 *a*, where it is disputed whether these chambers were visited once in seven years (in the year of release, Rashi), or twice in seven years, or once in the *year of* Jubilee.

[38] Erubin 105; Tosefta Kelim 1; Yoma 6 *b*.

[39] Middoth iii, 5, where it is said that the workmen were let down from above into the Holy of Holies in boxes. In Tosefta Kelim 1, this rule appears to be applied to the holy place as well as the Holy of Holies (see note to the works of Maimonides, *in loc.*). "To make repairs," תקן, *aptare, propurare, stabilire*. The word sometimes corresponds to היטיב in Hebrew, and is used here in contradistinction to בנה, to build. Perhaps it should be rendered to "ornament."

CHAPTER VIII.

1. The guarding of the Sanctuary was an affirmative command, notwithstanding that there was no fear of enemies or robbers, for the guarding of it was only for its honour. A palace over which there is placed a guard is not like a palace over which there is no guard.

2. And this guarding was commanded for the whole night. And the watchers were the priests and Levites, as it is said "thou and thy sons with thee before the tabernacle of witness" (Num. xviii, 2), which is as if it were said "ye shall guard it," and lo, it is said "and ye shall keep the charge of the tabernacle of the congregation" (*ib.* xviii, 4); and it is said "but those that encamp before the tabernacle towards the east, *even* before the tabernacle of the congregation eastwards, *shall be* Moses, and Aaron, and his sons, keeping the charge of the Sanctuary" (*ib.* iii, 38).

3. And if they ceased guarding, they transgressed a negative command, as it is said, "and they shall keep the charge of the Sanctuary." And the import of the word, שמירה, *guarding*, is אזהרה, an admonition, so thou mayest learn that its guarding is an affirmative command, and the neglect of its guarding a negative command.[1]

4. The law of its guarding was that the priests should keep guard inside, and the Levites outside. And four and twenty guards watched it the whole night continually in four and twenty places; the priests in three places, and the Levites in one and twenty places.

5. And where did they watch? The priests watched in the house Abtinas, and in the house Nitzus, and in the house Moked. The house Abtinas and the house Nitzus were upper chambers built at the side of gates of the court, and the boys[2] watched there. The house Moked was arched, and it was a large room surrounded by stone benches, and the elders of the family whose turn of service was on that day[3] slept there and the keys of the court were in their charge.[4]

6. The priests who watched did not sleep in the priestly garments, but folded them up and put them opposite their heads, and put on their own garments, and they slept upon the ground, like all watchers in the courts of kings, who do not sleep upon beds.

7. If an accident happened to one of them, he went along the gallery which was under the surface of the court (because the hollow places which opened to the mountain of the house were not sanctified), bathed and returned, and sat beside his brethren the priests, until the gates were opened in the morning, when he went out and departed.

[1] According to a rule of Talmudical interpretation. *Cf.* Menachoth 36 *b*, Makoth 13 *b*, &c., שלא לבטל שמירת המקדש, not to intermit the guarding of the Sanctuary, is enumerated among the 365 negative precepts.

[2] Sons of the priests not yet thirteen years of age.

[3] The guard was divided into seven houses of fathers (families) according to the days of the week, one for each day (Bartenora in Tamid i, 1).

[4] Literally, in their hands.

8. And where did the Levites watch? At five gates of the mountain of the house, and at its four corners within, and at the four corners of the court outside (because it was forbidden to sit in the court), and at five gates of the court outside of the court, for lo, the priests watched at the gate Moked, and at the gate Nitzus. Lo, *these are* eighteen places.

9. And moreover they watched at the chamber of the offering, and at the chamber of the veil, and behind the house of atonement.

10. And they placed a prefect over all the guards who watched. He was called the man of the mountain of the house, and went round all night to every guard in turn, with lighted torches before him, and to every guard who was not standing, the man of the mountain of the house said "peace be upon thee." If it appeared that he slept, he beat him with his staff, and he had authority to burn his cloak, so that they said in Jerusalem "what is the voice in the court? It is the voice of the Levite being beaten and his garments burned, because he slept in his watch."

11. In the morning, shortly before daybreak,[5] the prefect of the Sanctuary came and knocked *at the door of the* house Moked, where the priests were, and they opened to him. He took the key and opened the little gate which was between the house Moked and the court, and entered from the house Moked to the court, and the priests entered behind him. There were two lighted torches in their hands, and they divided into two companies, one going towards the east, and one towards the west, and they searched, and traversed the whole of the court, until the two companies reached the place of the house of the pancake-maker. Having reached it, both companies said "Is it peace?" and they placed the maker of the pancakes to make the pancakes.

12. According to this order they did every night, except the night of the Sabbath, when they had no light in their hands, but searched by *the light of* the lanterns which were lighted here, on the eve of the Sabbath.[6]

[5] קודם שיעלה עמוד השחר סמוך לו, before the pillar of the morning rose *and* near to it. *Cf.* Genesis xxxii, 26, which in the Jerusalem Targum has שחרא for the column of the morning arises (Buxtorf.). סליק עמוד ארום

[6] For the contents of this chapter, consult Tamid i and Middoth i.

YOMA, OR THE DAY OF ATONEMENT.

WITH THE COMMENTARY OF RABBI OBADIAH OF BARTTENORA.

CHAPTER I.

1. SEVEN days before the day of atonement, they separated the high priest[1] from his house, to the chamber Palhedrin.[2] And they appointed another priest in his stead,[3] in case any defilement should happen to him. Rabbi Judah said "also they appointed for him another wife, in case his wife should die,"[4] as is said (Levit. xvi. 17), 'and have made an atonement for himself and for his household:' his household, that is, his wife." They said to him, "if so, there *would be* no end to the matter."

2. All the seven days, he sprinkled the blood,[5] and burned the incense, and dressed the lamps,[6] and offered the head and the leg. And on all

[1] Because all the services of the day of atonement were not lawful unless performed by him, as is said, in reference to the day of atonement (Levit. xvi, 32), "and the priest, whom ye shall anoint shall make an atonement." And this separation we infer from what is written (Levit. viii, 33), "the seven days of their consecration," and "ye shall not go out of the door of the tabernacle of the congregation *in* seven days," and what is written afterwards (v, 34) "as he hath done this day, *so* the Lord hath commanded to do, to make an atonement for you." And our rabbis have expounded "to do" as referring to the ceremonies connected with the red heifer (Numbers xix): and "to make an atonement for you," as referring to the day of atonement, because the priest who burnt the red heifer, and the priest who officiated on the day of atonement, were both of them obliged to be separated from their houses seven days, as Aaron and his sons were obliged during the seven days of their consecration.

[2] The king's officers were called *palhedrin*, and because the high priests of the second Temple, after Simeon the Just, gave money to serve in the high priesthood, and because they were wicked men, they did not complete their years, but were changed every twelve months, like the officers of the king, whom the king changes every year, therefore they called this chamber, the chamber *palhedrin*.

[3] They prepared another priest to be high priest in his stead if קרי, or other uncleanness, happened to him.

[4] If thou takest the question of death into consideration, there is no end of the matter; because this one also might die. But an uncleanness, which is of common occurence, we take into consideration, and therefore they appointed for him another priest: death, which is not of common occurrence (as death happening suddenly and instantaneously) we do not take into consideration, and therefore they did not appoint for him another wife. The decision was according to the wise men [not according to Rabbi Judah].

[5] Of the continual sacrifices, in order that he might be accustomed to the service.

[6] He cleansed them from the ashes of the wicks which were extinguished.

other days,[7] if he desired to make the offering, for the high priest had the preference with respect to the part he might wish to offer,[8] and the preference in taking a portion[9] *of the sacrifices for himself*.

3. They set apart for him elders of the elders of the house of judgment, who read before him[10] from the order of the day,[11] and they said to him, "my lord,[12] high priest, read thou for thyself, lest thou mays't have forgotten, or least thou hast not learned."[13] On the day preceding the day of atonement, at daybreak, they caused him to stand at the eastern gate, and caused to pass before him bulls, goats, and sheep, in order that he might become acquainted with and accustomed[14] to his service.

4. All the seven days they did not restrain him from eating and drinking, *but on* the eve of the day of atonement at dusk, they did not let him eat much,[15] because eating induces sleep.

5. The elders of the *beth-din*,[16] delivered him to the elders of the priesthood,[17] and they took him up to the upper chamber Beth Abtinas,[18] and imposed an oath upon him,[19] and departed and went their way. And

[7] If he desired to make the offering, he offered every offering that he pleased; nor had the men of the watch power to stay his hand.

[8] He had the right to offer any part that he chose.

[9] In the division of the holy things, he took the portion which he selected as the best. These words refer to the holy things of the altar (Sanctuary), but the holy things of the country, both the high priest and the ordinary priest divided equally.

[10] All the seven days.

[11] In the section *achare moth* (Levit. xvi).

[12] אדני=אישי, my lord.

[13] In the second Temple this was necessary, because at the command of the kings they appointed high priests who were not fitted for the office; but those of the first Temple did not appoint as high priest any one who was not distinguished amongst the priests for wisdom, for beauty, for strength, and for riches; and if he was not rich, his brethren the priests made him so from their own means, as is said (Levit. xxi, 10) "the high priest among his brethren:" they made him great, from what belonged to his brethren.

[14] They caused him to observe the beasts which passed before him in order to impress upon him the rules of the service of the day.

[15] Even of such kinds of food as do not produce heat; and they restrained him altogether from all food which might produce heat or defilement, קרי, such as milk, eggs, meat, oil, old wine, and the like.

[16] Who had read before him from the order of the day.

[17] To teach him how to fill his hands with the incense, as is said (Levit. xvi, 12) "and his hands full of sweet incense," which was a difficult part of the service.

[18] It was they who made the incense, and pounded it and mixed the gums.

[19] That he should not be a Sadducee to put the incense on the censer outside of the Temple and then to enter. For they [the Sadducees] explain "I will appear in the cloud upon the mercy seat" (*ib.* 2), that in a cloud of smoke of the incense he should come, and then appear upon the mercy seat. But the thing is not so, for the Scripture says (*ib.* 13) "and he shall put the incense upon the fire before the Lord."

they said to him, "my lord high priest, we are the delegates of the *beth-din*, and thou art our delegate, and the delegate of the *beth-din*, we adjure thee, by Him whose name dwelleth in this house, that thou change nothing of all that we have told thee." He retired and wept,[20] and they retired and wept.[21]

6. If he were a wise man, he expounded,[22] and if not, the disciples of the wise men expounded before him. If he were accustomed to read, he read; and if not, they read before him. And in what did they read before him? In Job, or Ezra,[23] or Chronicles. Zachariah ben Kabutal said, "many times I read before him in Daniel."

7. If he were inclined to fall asleep, the youths of the priesthood[24] struck before him with the forefinger,[25] and said to him, "my lord high priest, stand up,[26] and cool thyself a little upon the pavement," and they kept him occupied until the time for slaying *the morning sacrifice* arrived.

8. Every day they cleansed the altar[27] at cock-crow, or near it,[28] either before or after. And on the day of atonement after midnight,[29] and at the feasts after the first watch.[30] And cock-crow did not happen until the court was filled with people [*lit.*, Israel].[31]

[20] Because they had suspected him of being a Sadducee.

[21] Because they had suspected him, for Mar said, whoever suspects the righteous is to be beaten in his body.

[22] In things pertaining to the decisions of the law (הלכה); all the night of the day of atonement, so that he shall not sleep and defilement happen to him, and if he were a disciple, and not a wise man, and knew to hear and understand the law, but not to expound, they expounded before him.

[23] Because these attract the attention so that sleep did not overcome him.

[24] פרחי כהונה young men, the hair of whose beards was beginning to grow, were called פרחי, *pirchy* = young shoots, buds.

[25] באצבע צרדה, the finger nearest the thumb. The meaning of צרדא is צרתה דדה, "near to it" [Yoma 19 *b*], that is to say, near to the thumb which adjoins it. They joined the thumb and the finger next to it, and struck the palm of his hand and produced a sound, in order that he should not sleep.

[26] Upon thy feet and cool thyself a little upon the pavement of marble to take away the heat, for cooling the feet takes away sleep, and הפג has the signification of taking away, as מפיגין טעמן, "lessen or change its taste" (Pesachim 41 *a*).

[27] He took some of the ashes (תרומת, *cleansing*, is the same as taking away), either more or less, in the censer, and put them on the east of the ascent to the altar, and they were swallowed up there in their place [בדרך נס, miraculously]. This was the beginning of the morning service.

[28] Near cock-crow, either before or after.

[29] On account of the weakness of the high priest. Because upon him alone was imposed the whole service of the day, it was necessary to rise very early.

[30] The multitude of Israel, and the multitudes of offerings, and the great amount of ashes in the place of the pile and the necessity of taking up the ashes from the pile to the place in the middle of the altar which was called *tapuach* [an apple], in which place a great heap of ashes was collected and arranged like an apple, made it necessary to rise very early; and they rose after the first watch, which was the third part of the night.

[31] At the feasts, cock-crow did not come until the court was full of Israel bringing their offerings, to offer them immediately after the morning sacrifice.

CHAPTER II.

1. At first every priest who wished to remove the ashes from the altar,[1] did so; and when there were many,[2] they ran and ascended the incline,[3] and he who got before[4] his fellows, to within four cubits *of the top*, obtained the right to perform the service. If two were equal,[5] the warden said to them, "extend the fingers." And how? They extended one, or two.[6] And in the Sanctuary they did not extend the thumb.[7]

2. It once happened, that two of them being equal, ran and ascended the incline, and one of them pushed the other, so that he fell, and his leg was broken. And the *beth-din* saw that they came into danger *through this practice*, they ordained that they should not remove the ashes from

[1] Every priest who was of that house of the fathers and who wished to remove the ashes in the morning did so, and there was no lot cast in the matter.

[2] Of those who came to take away the ashes, this one said "I wish to take away the ashes," and the other said "I wish to take away the ashes." This was their custom. They ran and ascended the sloping ascent of the altar, which was thirty-two cubits long.

[3] He who was the first to get within the four upper cubits of the ascent, which were near the top of the altar, obtained the right to remove the ashes. This was their lot.

[4] In getting within [these four cubits] neither of them obtained the right, but now they all came and cast lots. And how was the lot cast? The prefect said to them all, "hold up your fingers" [*micate digitis*], that is to say, "put forth your fingers," and every one showed his finger. Because it was unlawful to count the men of Israel, therefore it was necessary for them to put forth the fingers, in order that the fingers, and not the men, might be counted. And how did they do it? They stood round in a circle, and the prefect came and took the cap from the head of one of them, and from this one the lot began to count. Each one extended his finger, and the prefect mentioned a number—a hundred, or sixty, some number much higher than the number of the priests present—and said, "he at whom this number finishes shall have the right [to perform this service]." And he now began to count from him, from whose head he had removed the cap, going round again and again, and counting the fingers until he came to the end of the number, and he at whom the number terminated obtained the office. And this was the manner of all the lots in the Sanctuary.

[5] One finger if he were a healthy man, and two if he were sickly. Because a sick person is not able to restrain his fingers, and when he extends one, that next to it comes out with it. But only one of the two was counted.

[6] Because of deceivers. For when the number came near finishing, and they could tell at whom it would finish, he who stood before him might put out two fingers in order that he might be counted as two persons, and thus the number might prematurely be completed at him. And the prefect might not perceive this, because a man can stretch the thumb to a great distance from the finger, so that they might appear like the fingers of two men, which it is impossible to do with the other fingers.

the altar except by lot.[7] Four lots were there,[8] and this was the first lot.

3. The second lot was, who should kill *the sacrifice*,[9] who should sprinkle the blood, who should take the ashes from the inner altar, who should take the ashes from the candlestick, who should take up the pieces of the *sacrifice* to the incline, the head and the leg,[10] and the two fore-legs, the end of the spine and the leg, the breast and the throat, and the two sides, and the inwards, and the fine flour, and the pancakes and the wine. Thirteen priests obtained it. The son of 'Azai said before Rabbi Akibah, in the name of Rabbi Joshua, "as the animal walked,[11] so it was offered."

[7] That [lot] which we have explained.

[8] Four times a day they were assembled to cast the lot. They did not cast the lots for all at one assembly, in order to make it heard four times that there were many people in the court. And this was for the honour of the king, as is said (Psalm lv, 14), "we walked into the house of God, ברגש, in tumult" [the tumult of a large assembly].

[9] Who should slay the daily sacrifice, who should sprinkle the blood, &c. All these offices were decided by one lot. He at whom the number terminated (as we have explained) obtained the right, and sprinkled the blood upon the altar after he had received it in the vessel for the purpose, for he who sprinkled the blood received the blood. The next priest to him killed the sacrifice, and this, notwithstanding that the slaying preceded the receiving of the blood, because the office of sprinkling was higher than that of slaying, for the slaying was lawful if done by a stranger, which was not the case with the sprinkling. For from the receiving of the blood and afterwards it is commanded that all the service be performed by priests. And hence he to whom the first lot fell obtained the office of sprinkling, and the next to him that of slaying, and the next to him who slew the lamb cleansed the altar from the ashes, and the next to him who cleansed the altar from the ashes, removed the ashes from the candlestick, and so with all.

[10] The head and right [hind] leg by the first priest; the two fore-legs by the second; the end of the spine (which is the tail) and the left [hind] leg by the third; the breast (that is the fat of the breast, the part looking towards the ground, which they divided on either side without the ends of the ribs) and the throat (the place where animals chew the cud, that is the neck, and joined to it the windpipe, with the liver and the heart), the breast and the throat by the fourth priest; and the two sides by the fifth priest; and the inwards by the sixth; and the fine flour, a tenth deal for the meat and drink-offering of the continual sacrifice (Exod. xxix, 40) by the seventh; and the pancakes, a half tenth deal for the meat-offering of the high priest, which he offered every day with the daily sacrifices, as is said (Levit. vi, 20), "half of it in the morning, and half thereof at night," by the eighth; and the wine, three logs for the drink-offering of the daily sacrifice, by the ninth. Thirteen priests obtained by this lot thirteen priestly functions, numbered to them according to the order stated in the Mishna.

[11] As it walked during its life the continual sacrifice was offered. The first doctor thought the good and comely parts were offered first, and Ben 'Azai thought it was offered as it walked; the head and the hind-leg, the breast and the throat, and the two fore-legs, and the two sides, the end of the spine and the (other) hind-leg. The decision was not according to Ben 'Azai.

4. The third lot *was* "those who have never offered the incense, come and cast lots."[12] And the fourth was for those who had, and those who had not before performed the function[13] *to decide* who should take up the pieces *of the sacrifice* from the incline to the altar.[14]

5. The continual sacrifice was offered[15] by nine *priests*, by ten, by eleven, by twelve, no less and no more. How? *The lamb* itself by nine.[16] At the Feast of Tabernacles,[17] the vessel of water *was brought* by the hand of one, making ten. In the evening[18] by eleven; the lamb itself by nine, and two with two pieces of wood in their hands. On a Sabbath by eleven; the lamb itself by nine; and two with two vessels of frankincense for the shew-bread in their hands. And on a Sabbath which occurred in the middle of the Feast of Tabernacles, a vessel of water, by the hand of one.

6. A ram was offered by eleven *priests;* the flesh by five,[19] the inwards, and the flour[20] and the wine by two *and* two.

7. A young bullock was offered by twenty-four *priests.* The head and the leg: the head by one, and the leg by two. The end of the spine and the leg: the end of the spine by two, and the leg by two. The breast and the throat: the breast by one, and the throat by three. The two fore-legs by two. The two sides by two. The inwards, the fine flour, and the

[12] Thus they cried out in the court. That is to say, he who has never yet obtained the office of offering the incense come and cast lots. And they did not allow one who had once obtained that office to repeat it, because it made rich, for it is written (Deut. xxxiii, 10, 11), "they shall put incense before thee" . . . . "bless, Lord, his substance," and because every priest who offered incense became rich and was blessed thereby, therefore they did not allow any one to do it a second time, in order that all might become rich and be blessed by it.

[13] "New and old." He who had obtained this lot on other occasions, and he who had never obtained it, come and cast lots.

[14] When they took the pieces from the slaying place they did not take them to the altar, but put them on the middle of the incline below on the east, and cast another lot who should take them up from the place where they had been placed on the incline to the altar; and they did so because "in the multitude of people is the king's honour" [Prov. xiv, 28].

[15] He reckons from the time of taking the pieces of the sacrifice and onward.

[16] Six for the pieces and the inwards, as we have said above, and one for the flour, one for the pancakes, and one for the wine.

[17] Because two drink-offerings were required, one of wine and one of water. The vessel of water was brought by the hand of a priest.

[18] The daily evening sacrifice. Two carried in their hands two pieces of wood to add to the wood of the pile, for it is written (Levit. i, 7), "and they shall lay the wood in order upon the fire." This does not refer to the morning sacrifice, for it is written in Levit. vi, 12, "and the priests shall burn wood on it every morning," which teaches that it refers to the evening sacrifice when two pieces of wood were added.

[19] As the pieces of a lamb, so the pieces of a ram.

[20] Two tenth deals were offered by two priests.

wine, by three *and* three. To what do these words apply ?[21] To offerings of the congregation. But an offering of an individual if he wished to offer it[22] *himself*, he might offer it. The skinning and eating up[23] of both the one and the other were alike.

CHAPTER III.

1. THE prefect[1] said to them "go out and see[2] whether the time for slaying[3] *the sacrifice* has arrived." If it had arrived, *the priest who went out* to see, said "it lightens."[4] Matathiah ben Samuel said "it is becoming light along the whole east."[5] "As far as Hebron ?"[6] and he said "yes."

2. And why did they find this necessary ? Because it once happened that the light of the moon ascended, and they thought it was daybreak,[7] and slew the sacrifice and took it out to the place of burning. They conducted the high priest down to the bathing room.[8] This was a general rule in the Sanctuary : whoever "covered his feet "[9] was required to bathe his whole body *afterwards*, and whoever made water, was required to wash [*lit.* sanctify] his hands and his feet.

3. No man might enter the court for the service[10] even though clean,

[21] In reference to all these priests for one beast, and in reference to the lot.

[22] One priest might offer the whole and without casting a lot.

[23] The skinning and cutting up of the bullock offered by an individual, and that offered on behalf of the congregation were alike [שׁוִין, equal] in that both were lawful by a stranger, and did not require a priest.

[1] He was the *sagan* (or vicar of the high priest).

[2] To a high place which they had in the Sanctuary.

[3] Because it was unlawful to slay the sacrifice by night, as it is said (Levit. xix, 6), "on the day ye offer it."

[4] It is becoming light and the morning breaks.

[5] This was after the lightening spoke of by the first doctor. The *halachah* was according to Matathiah ben Samuel.

[6] Those standing below asked him whether the light reached to Hebron, and he replied yes. They mentioned Hebron in order to call to mind the merits of the fathers.

[7] This is not said to have been on the day of atonement, for it is not possible for the light of the moon to ascend near the morning on the day of atonement, because that is at the third part of the month, but at the end of one of the months, when the moon rose near the rising of the morning, this mistake occurred ; and they were anxious lest on the day of atonement another mistake of the like kind might happen, and therefore considered all this necessary.

[8] This [that is said about the moon] is parenthetical, and now [the Mishna] returns to what we are taught above, "as far as Hebron ?" and he said "Yes." And after that the priest who went out to look said "yes," they conducted the high priest down to the bathing-room, because he was required to bathe before he slew the continual sacrifice.

[9] An euphemism for the *excrementa majora seu crassa.*

[10] Or for any other purpose.

until he had bathed.[11] On *this* day the high priest underwent in it five immersions and ten washings [*lit.* sanctifying], and was sanctified, and all of them *were* in the holy part of the Temple upon the house Parvah,[12] except this one only.[13]

4. They spread a linen cloth[14] between him and the people. He stripped, descended and immersed himself; came up and wiped himself.[15] They brought to him golden garments. He dressed and sanctified his hands and his feet.[16] They brought to him the lamb for the sacrifice, which he partly slaughtered,[17] and another[18] *priest* completed the slaughtering for him.[19] He received the blood and sprinkled it. He went in to offer the morning incense, and to dress the lamps, and to offer the head and the pieces, and the pancakes, and the wine.

5. The incense of the morning was offered between *the sprinkling of* the blood, and *the offering of* the pieces *of* the sacrifice;[20] *that* of the evening between *the offering of* the pieces of the sacrifice, and *the pouring out of* the

[11] The matter is *à fortiori;* for as the high priest changing from holy to holy, from service without [the Temple itself] to service within, and from service within to service without, was obliged to bathe between one service and another, much more as he now came from his house, which was profane, to the holy place, he was obliged to bathe.

[12] Upon the chamber of the house Parvah.

[13] The first, which was in the profane part of the temple, over the water gate beside his chamber.

[14] To keep in mind that the service of the day was performed in linen garments, because the high priest was accustomed to serve all the year in golden garments.

[15] Wiped clean.

[16] At the laver, because at every change of the garments of the day it was necessary to sanctify at taking them off, and again at putting them on, and this first bathing, which was on taking off the profane garments, did not require sanctifying of the hands and feet at the taking off.

[17] He cut the greater part of the two "signs" [the gullet and windpipe], which alone makes the slaughtering lawful.

[18] Another priest completed the slaughtering, because the receiving of the blood was not lawful except by the high priest, and it was necessary to hasten to receive it.

[19] על יד, "on his account," or, perhaps, by the hand of another near to him, as in Nehemiah iii, 8, על ידו החזיק, "next unto him repaired," &c.

[20] Not exactly so. For we are taught above [i, 2] "he received the blood and sprinkled it, *and* entered to offer the incense, and to dress the lamps, and to offer the head and the pieces," so that the incense was offered between the sprinkling of the blood and the dressing of the lamps, and not between the sprinkling of the blood and the offering of the pieces of the sacrifice. But the doctor is not now speaking of the order of the offerings, that this one was after that, and so on, but he only desires to say that the sprinkling of the blood and the offering of the pieces did not immediately follow the one after the other, for the incense came between them, and also the dressing of the lamps was between them, after the incense, *and* before the offering of the pieces.

drink-offerings. If the high priest was old or weak,[21] they prepared for him hot water,[22] and put it[23] into the cold *water*, in order to take away[24] its coldness.

6. They led him to the house of Parvah,[25] which was in the holy part *of the Temple*,[26] *and* spread a linen cloth between him and the people. He sanctified [washed] his hands and his feet, *and* stripped. Rabbi Meyer said he *first* stripped, *and then* sanctified his hands and his feet.[27] He went down *into the bath* and immersed himself, came up, and wiped. They brought to him white garments,[28] he dressed and sanctified his hands and his feet.

7. In the morning he put on garments of Pelusium[29] manufacture, of the value of twelve *manim*, and in the evening Indian[30] garments, of the value of eight hundred *zuzim*. The words of Rabbi Meyer. And the wise men said "in the morning he put on *garments* worth eighteen *manim*, and in the evening[31] worth twelve *manim*;[32] the whole of these thirty *manim* were the property of the community, and if he wished to add to them, he added from those belonging to himself.[33]

8. He came now to his bullock; and his bullock stood between the porch and the altar,[34] its head to the south and its face to the

[21] So that his body was cold and frigid.

[22] On the eve of the day of atonement.

[23] On the day of atonement they put it into the pit built in his bathing-room.

[24] To take away its coldness somewhat. שתפיג is like מפיגין טעמן, "they change or lose their taste" [Pesachim 41 *a*].

[25] A certain magician, whose name was Parvah, built it, and it was called after his name.

[26] Because this second immersion, with all the other immersions, except the first, must be in a holy place, as it is written (Levit. xvi, 24), "and he shall wash his flesh with water in the holy place."

[27] R. Meyer said, he stripped first and afterwards sanctified. The decision was not according to Rabbi Meyer.

[28] The shirt, the breeches, the girdle, and the turban, which are mentioned in Leviticus xvi, 4, for all the services which were within were performed in them, but the services which were without (as the continual sacrifices and the additional sacrifices) were in golden garments, in which he ministered the whole year. And between each change of garments immersion and two sanctifyings of the hands and feet at the laver were required.

[29] Fine and beautiful linen brought from the land of Ramses. In the Targum Yerushalmy Ramses is Pelusa [Pelusium].

[30] From the land Hodo [India].

[31] Those which he put on to bring out the kaf and the censer.

[32] He here repeats the aggregate value, and teaches us to understand that thirty *manim* were the sum of the whole; to tell thee that it was of no consequence if he diminished from those of the morning, and added to those of the evening [provided the whole was thirty *manim*].

[33] Only he must give those added as a gift to the Sanctuary.

[34] By law all the northern part of the court was fit for the bullock to stand in, for it was all "before the Lord." And they did not place the bullock between

west.[35] And the priest stood on the east, with his face to the west,[36] and laid his two hands upon it and confessed. And thus he said: O God! I have done wrong, I have transgressed, I have sinned before Thee, I and my house. Forgive now, O God, the wrong and the transgression and the sins which I have done, and transgressed and sinned before Thee, I and my house, according as it is written in the law of Moses, thy servant (Levit. xvi, 30), "for on that day shall *the priest* made an atonement for you," &c., and they repeated after him, "blessed be the glorious Name of His kingdom for ever and ever."

9. He now came to the east of the court,[37] to the north of the altar, the sagan *being* on his right hand and the chief of the house of the fathers on his left. And two goats were there, also a box,[38] in which were two lots of boxwood;[39] Ben Gamla[40] made them of gold, and they were accustomed to commemorate him with praise.

10. Ben Katin[41] made twelve cocks[42] to the laver, there having *before* been only two, and also he made a machine[43] for the laver, that its water might not become defiled by remaining all night. Monbaz, the king, made all the handles of the vessels of the day of atonement of gold. Helena, his mother, made a golden lantern[44] for the door of the Temple, also she made a golden tablet upon which was written the section of the law

the porch and the altar near to the Temple, but on account of the weakness of the high priest, that he should not be oppressed by the burden of carrying the vessel for sprinkling the blood to a distance.

[35] It was ordained by the law that its head should be towards the temple, which was on the west, and its hinder part towards the altar; but lest it should drop its dung, and because it was a shame that its hinder part, בית הרעי, should look to the side of the altar, its head was put towards the south and its tail towards the north, which was very suitable, and the middle of its body between the porch and the altar, and its head was turned until its face was towards the west.

[36] And his back to the east.

[37] Because they did not take the goats in to between the porch and the altar when it was wished to put the lots upon them, but they remained in the court till the time of slaying.

[38] A perforated vessel of wood.

[39] Buso [buxus] in Latin, a kind of wood. This is only a supposition.

[40] Joshua ben Gamla, when he was chosen to be high priest, made them of gold.

[41] He was a high priest.

[42] In order that the twelve priests to whom the lots had fallen to perform the continual sacrifice of the morning might sanctify all at one time, and notwithstanding that there were thirteen priests engaged in this service, as we have said in Chapter II, no cock was made for the slayer of the sacrifice, because the slaying was lawful by a stranger.

[43] A wheel to immerse it in the cistern [or well] that its waters might be mingled in the cistern and not become defiled by remaining all night [in a sacred vessel].

[44] Or candlestick [*candelabrum*].

referring to a suspected wife[45] [Numbers v, 12]. To the doors of Nicanor[46] there happened miracles.[47] And him they commemorated with praise.

11. And these were commemorated with shame: the family of Garmu, *who* were unwilling to teach the way of making the shewbread;[48] the family of Abtinas, who were unwilling to teach the manner of making the incense;[49] Hagros ben Levi, *who* knew a portion of song[50] and would not teach it; Ben Kamtsar *who* was unwilling to teach his method of writing.[51] In reference to the former,[52] it was said "the memory of the just is blessed," and in reference to the latter[53] "the name of the wicked shall rot."

[45] That it might not be necessary to bring [the roll of] the law, to write from it the section referring to a suspected wife.

[46] The name of a man.

[47] He went to Alexandria of Egypt to bring the doors. On his return there arose a great storm at sea, which threatened to sink them. They took one of the doors and threw it into the sea, in order to lighten the ship, and when they sought to throw overboard the other, he said to them, "throw me with it," and immediately the sea ceased its raging. When they arrived at the port of Acca the door which had been thrown overboard came out from under the side of the ship.

[48] The other workmen did not know how to take it from the oven without breaking it, because it was made like a kind of open box.

[49] They knew a certain herb whose name was "the ascending of smoke," and when they mixed it with the aromatics of which the incense was composed, the smoke of the incense formed a column and ascended in the form of a staff without bending to one side or the other.

[50] An agreeable modulation of the voice.

[51] He bound four pens to four of his fingers, and wrote the *nomen tetragrammeton* as if it were of one letter.

[52] Ben Gamla, Ben Katin, Monbaz, and Helena his mother, and Nicanor.

[53] The family of Garmu, and the family of Abtinas, Hagros ben Levi, and Ben Kamtsar. And although the family of Garmu and the family of Abtinas explained their words, "that they did not wish to teach," to mean that they would not teach a person who was not honest and might go andpractise idolatry thereby; the wise men did not accept their words.

THE CITY OF DAVID.

(*Continued.*)

I. Zion, South and not West of the Temple.

In his Handbook Captain Conder places "Acra or Millo" and the "Tomb of David" further west than Sir Charles Warren's site, and (p. 333) has "little hesitation in identifying that hill (Acra) with the knoll of the present Sepulchre Church." He concludes that the term, the City of David, was applied to this part because (as he urges) Millo was in the City of David, and Millo is rendered by *Acra* in the LXX, and next because Josephus (p. 338) seems by Millo to understand the Lower City ("Ant.," VII, iii, 2), which he identifies with Acra ("Wars," V, vi, 1); and, as already stated, Captain Conder takes Josephus to place his Acra west of the Temple. It will be seen that the argument is this: Where Acra was, there was also the City of David. But it has been proved above that Acra was *south*, not west, of the Temple. Therefore the City of David was not on Captain Conder's site, near the Church of the Holy Sepulchre.

Another point may be noticed. As Captain Conder is ready to identify the Acra of the LXX with the Acra of Josephus, and the Lower City in the "Antiquities" with the Acra in the "Wars," he cannot fairly refuse to identify the Lower City and the Acra of the "Antiquities" with the Lower City and Acra of the "Wars," while the expression in "Ant.," XII, v, 4, he "built the Acra in the Lower City," shows that sometimes the Acra only means a part of the latter. Now in "Ant.," VII, iii, 1, Josephus says that David *took first the lower city and next the Acra*, and so captured the whole of Jerusalem. Now it is obvious that the *Upper* City on the south-western hill could not be either the *Lower* City or the Acra within it. Therefore, according to the "Antiquities," the Upper City was not the City of David.

Accordingly, when Captain Conder ("Handbook," 336) wants to show that the Upper City was Zion, or the City of David, he appeals to 'Wars," V, iv, 1, where Josephus says that the Upper City was called φρούριον (the citadel) by David, evidently as equivalent to "the fort" (Heb. Metzad) of Zion, which was afterwards called the City of David (2 Sam. v, 7).

Josephus wrote the "Antiquities" after the "Wars," and was of course at liberty to correct his own mistakes as far as he could. Since then, in his later and fuller account, Josephus speaks of David taking the Lower City and the Acra, and after the expulsion of the Jebusites from the Acra, of his rebuilding Jerusalem and calling it the City of David, it is obvious that the casual remark in the "Wars" is set aside as worthless by Josephus himself. After this exposure I hope no one will maintain that the abandoned statement of "Wars," V, iv, 1, proves that the Upper City was ever the stronghold of Zion, or the site of the City of David. For myself I decline to depend on the conjecture in the "Wars"

or the paraphrase in the "Antiquities," as one can go directly to 2 Sam. v, where the Biblical account says nothing whatever about an *Upper* or *Lower* City, but simply mentions the fort of Zion.

Thrupp (Jerusalem, 56) thinks that Acra in "Ant.," VII, iii, 1, may and does mean the Upper City because (1) the Acra in that passage is "not to be identified with the Lower City, the Acra of later times," and (2) because Josephus in "Ant.," XII, x, 4, speaks of an Acra which Thrupp takes to have been in the Upper City.

The answer to (1) is, that the later Acra (as already pointed out) sometimes means only a part of the Lower City, and therefore, in "Ant.," VII, both the Acra and Lower City, without being identical, may be named, just as both are mentioned in "Ant.," XII, v, 4; and to (2) that the passage in Josephus is corrupt, and that a reference to the parallel account in 1 Macc. vii, 32, shows that the Acra named was not in the Upper City, but was the one commonly so called.

Further, in attempting to prove that the Acra of Josephus was west of the Temple, Captain Conder shows but little respect for the statements of his great authority.

In "Wars," V, iv, 1, 2, Josephus says, "Over against this (Acra) there was a *third* hill (obviously the Temple hill), but naturally lower than Acra, and formerly parted from it by another *broad* valley. . . . The Hasmoneans filled up the valley, wishing to join the City to the Temple; and they levelled the summit of Acra and reduced its elevation in order that the Temple might be seen above it in this direction, . . . a *fourth* hill which is called Bezetha (*i.e.*, the new city)."

Compare with this Captain Conder's statements. He says ("Handbook," 332, 3) the "*third* hill was covered by the new city," (!) or Bezetha. The third hill (Bezetha !) was separated from Acra by a *deep* valley afterwards filled up by the Hasmoneans. But if they had wished to join the city (Acra) to the Temple, why should they have filled up the valley between Acra and a different hill, Bezetha, north of the Temple (333)? And, lastly, Captain Conder tells us that his Acra (contrary to the statement of Josephus) is still *above* (instead of lower than) the highest point on the Temple ridge.

Sir Charles Warren's site at any rate satisfies this requirement, and so, of course, does the true site for Acra south of the Temple.

It is one thing for Josephus to have made a mistake about a height being lowered and a valley filled up two hundred years before his day, when in his time neither existed to be seen; and quite a different thing for him not to have known which of two hills was the higher, when he had probably observed both of them daily during the siege. It seems to me, however, that Josephus may have meant that the *Upper City* was joined to the Temple in the line of Wilson's Arch.

Having thus cleared of all obstructions the ground north of the Upper City, the way is now open for me to attack the traditional site.

II. Zion not on the South-Western Hill.

The defenders of the Upper City are many and mighty. They are further agreed that their site is the true one, but hopelessly at variance as to the way of proving it. Nehemiah ii, iii, and xii is to them a crucial test.

One (Mr. Tenz) thinks that the words (*supra* 122) "from the dung gate to the fountain gate" give an order from east to west; another (Captain Conder) from west to east; another changes his mind within ten pages ("Murray's Handbook," 172, 181); another protests against thinking about it at all. He writes to me: "I won't consider it any longer, as I nearly went off my head a dozen years ago over it. Of all the subjects I know, there is none more bewildering. I cannot understand how Sion can be anywhere but on the western (*i.e.*, S.W.) hill, and yet your arguments are very strong."

Mr. Tenz, the constructor of a most interesting model of Jerusalem, objects to the Ophel site on page 121 above, and thus defends the traditional one :—

1. He both says he "may justify the remarks made by Captain Conder against the Ophel site" (*Quarterly Statement*, 1883, p. 194), and adds that Josephus "is yet the most reliable authority." Captain Conder there asks, "If David and Solomon did not build a wall round the Upper City, why does Josephus say ('Wars,' V, iv, 1) that *the old wall built by David and Solomon began on the north at Hippicus?* Is this another false statement, or is Hippicus on the Temple spur, and is the Upper City *post* Herodian. And if they did, why should the 'City of David' be applied to a hill which was only walled in by later kings?" I have no objection to the idea that David and Solomon had to do with the wall here spoken of. I would, however, point out that while Captain Conder says Ophel "was only walled in by the *later* kings," Josephus himself in this passage says that the old wall built by David and Solomon and the later kings not only began at Hippicus, but also "had a *bend above Siloam, reached to Solomon's pool and Ophlas, and ended at the eastern cloister of the Temple.*" Thus, according to Josephus, David and Solomon had as much to do with the wall in Ophel as that on the hill of the Upper City, and so Captain Conder's notion about the later kings is wrong. Surely Mr. Tenz, as an admirer of Josephus, ought to have justified him and me and not deserted both of us for Captain Conder.

2. Next, he thinks that the towers, bulwarks, palaces in Psalms xlviii were too many to have been on Ophel, and that therefore Zion must mean the Upper City. The question, however, is not what Zion or Mount Zion may mean in the Psalms (where they sometimes seem to be equivalent to Jerusalem), but what in *historical* passages is meant by *Zion* and the *City of David*. (*Quarterly Statement*, 1881, p. 94.)

3. He thinks the Upper City must have been Zion, because the valley of Hinnom went up on the south side of it. I have shown, however, that the Tyropœon was the valley of Hinnom, and as it is not south of the

Upper City, this very argument shows that the Upper City was not the stronghold of Jebus, *i.e.*, Zion.

4. He thinks Nehemiah went out near the Virgin's Fount, by the valley (*ge*) gate leading to the brook (*nachal*) Kidron, and that when he went up by the brook (*nachal*), he went up *his* (Mr. Tenz's) valley (*ge*) of Hinnom. Here once more *ge* and *nachal* (see 101 *supra*) are confused, and so a hopeless chaos ensues, as will be seen in the next point.

5. By placing the valley gate near the Virgin's Fount, and David's tomb at or near the present traditional site, it will be seen on reference to Nehemiah iii, and xii, 31-40, that Mr. Tenz sends one procession almost round Jerusalem, first south, then west, next north, afterwards east, and finally south, until Ophel and the Horse Gate are passed in the *wrong* order, a distance of about 10,000 feet, and the other party only march a ridiculously short distance, about 500 feet, and into this short distance he has further to cram the sheep gate, the fish gate, the old gate, the Ephraim gate, and the valley gate—five gates in about five hundred feet, which is of course absurd, but inevitable with his theory.

The argument from military considerations, too hastily supposed to show that Zion was the Upper City, really points to a contrary conclusion.

It is said that as the south-western hill was by nature the strongest position, it must have been chosen for the site of the fort of Zion. But when Antiochus Epiphanes had the whole of Jerusalem in his possession, fortifying the Upper City is just what he did *not* do. He deliberately (1 Macc. i, 33) placed his garrison in the City of David, in the Acra, in the Lower City, where it held its own for twenty-six years, and was at last only reduced by famine. It is clear that what was taken to be the best position by Antiochus might well have been chosen by others before him.

I have shown above how Captain Conder's defence of the Upper City fails, but I must also show how his attack on my Ophel site ends in smoke. He does not admit with Sir Charles Warren that Nehemiah actually places the stairs of the City of David, and the Sepulchres of David, and the House of David, on Ophel, and so is put to great straits in order to avoid this concession.

(*a*) He draws ("Handbook," p. 345) the stairs either on the side of the Upper City or up the Tyropœon, though the natural course for the procession at the dedication of the wall would be as at other points, along the wall, which confessedly was on Ophel.

(*b*) He admits that the sepulchres of David are placed by Nehemiah on Ophel, but pleads that the expression means the sepulchres of (some of) the sons (or descendants) of David who were not buried in the City of David.

(*c*) He also admits that "the House of David" is placed by Nehemiah (xii, 37) on Ophel, but contends that the expression means the sepulchre, &c., as in (*b*).

This is certainly using the *lucus a non lucendo* principle with a

vengeance. But a new idea! Why not argue that the tomb was Saul's and that "the House of David" simply means "the tomb of the *father-in-law* (!) of David. For was not Saul buried in Zelah? and by some, I believe, "Zelah, Eleph" has been connected (*Quarterly Statement*, 1881, p. 147) with the eastern hill at Jerusalem.

I now claim to have disposed of the myth that the Upper City was Zion. Jerome seems to have been the publisher of this greatest work of fiction ever produced, for it has had a run of fifteen centuries, and is still in demand. It has not only imposed too long on unsuspicious folk, like myself, of cramped imagination, but it has also bewitched the writer of an impossible story whom I used to think too shrewd ever to mistake such fiction for fact. A few perhaps will be thankful for the dispelling of this patriotic concoction; most, however, will probably choose to believe an error rather than weary themselves in investigating the truth.

If any one wishes to defend either of the pseudo-Zions that I claim to have annihilated, let him do so.

"Vive, vale. Si quid novisti rectius istis
Candidus imperti; si non his utere mecum."

W. F. Birch.

THE DEAD SEA.

Some observations which seemed to point to one conclusion claiming my interest in the autumn of 1854, when I was twice at the southern end of the Dead Sea for the purposes of my Art, have since remained in my mind as indications of peculiar features in its geological formation, and as I have never met with references to them, I will now beg your permission to invite the attention of Mr. Hull, or of any future investigator of the district, in order to have the truth on the point raised satisfactorily explained.

I will tell the facts as they came to my notice. My first journey to the district was made from Jerusalem with Mr. W. Beamont, of Warrington, who wrote a very interesting diary of his visit to the Holy Land, entitled "Journey in the East." A third friend was his son, the Rev. W. J. Beamont, of Trinity College, Cambridge, since deceased. We arrived and pitched our tent on the plain amid the trees, which, as the lake widens two miles or so northward of Usdûm, are thick and about 20 feet or more in height. As there was still enough daylight remaining, we set off to the border of the sea for a bathe. On approaching the coast it was noticeable that the trees on the north-eastern curve of the bay stood closer to the margin of the water than they could have been when first they emerged from the soil, and that into the water itself the whole of the once living forest of tamarisks, junipers, acacias, &c., descended, leafless, dead, and stark. But although the engulfment had

been gradual, and probably the work of some seasons, the trees furthest away from the shore were still with branches unbroken, and even with stems and upper twigs intact until the depth hid them. It was a sight with immediate caution to the swimmer, and we took the hint to go two or three hundred yards more to the north. None of us had bathed before in the waters.

I think we were all good swimmers, but when I dashed in and threw myself forward to get out of my depth, there was enough to do without observing my friends. The unusual degree of buoyancy in the briny liquid threw me off my balance, the salt stung my eyes, ears, and every abrasion on my skin, and I could scarcely tell in what direction I was striking out until I found myself carried by a current into a mass of stiff boughs of trees far off from and still deeper engulfed than those visible from the land.

Making allowance for decrease of height from the carrying away by the waters of the upper twigs, the depth here to the bottom on which the trees stood must have been about 25 feet. The land had therefore sunk thus much since the trees were flourishing. So far, the fact was not for the neighbourhood a startling one. It was an encroachment of the sea on the land by the sinking of the latter.

Two months later I came to the same neighbourhood again to paint at the spot chosen for my landscape, which was two miles more to the south than the point where we had bathed. This time, for considerations of health, and being without friends with independent interests, I encamped under the castle built on the high crag between the divided torrent bed in the Wâdy Zuarahtahta. Before sunrise each morning I started with one Arab, Suleiman, to cross the plain to the shore of the narrowest part of the sea. It was in a line drawn from the mouth of the wâdy to the north-eastern base of Usdûm, only deflected slightly at this spot to escape the irregularities near the foot of the mount as it passed on somewhat more southwardly to the margin of the lake.

Varying our path to some degree one morning, my attention, about midway between the wâdy and the mount, was arrested by a circular opening in the earth, 7 or 8 feet in diameter. It was clearly not a well, its position forbade such idea ; but what would in any case have made this evident was that the aperture was not vertical, but oblique, sloping from north-west to south-east. The perforation was so clearly made that the layers of the alluvial soil, some of larger and some of smaller pebbles, were clearly defined in the sectional surface of the circumference. I asked Suleiman what this aperture was. He answered unhesitatingly that it had been caused by a falling star, and after the raw suspicion that he spoke thus with the ordinary love of the marvellous for matters beyond Arab ken, I saw that no other theory could amount for the conditions of the case. Time was too precious for me then to linger long, but on closer scrutiny on that occasion, and on subsequent mornings, I observed that the perforated earth was only a crust of upheaved sand of about 10 feet or so in thickness, and that below in all directions was a hollow

cave about 20 feet in depth without water at the bottom, where I could see the *débris* of the pierced alluvial crust. Unfortunately, my task was too difficult a one to allow me to spare the time for descending into the pit, and thus I could not investigate it except from above; but what I saw of the cavity suggested that the whole plain, having been formed by alluvial washings, had been raised from the bed below by volcanic force; that it remained thus while underwood and trees grew upon it; that it probably was impervious to the water of the Salt Sea, but that the weight of this was gradually pressing it with its growth down, as I had found was already done at the spot where my friends and I bathed two miles or so further north.

When I left the neighbourhood I had the intention of returning there to paint more of the extraordinary and grand scenery of the Dead Sea, but the Art world are slow to exhibit interest in what is not "stale as chimes to dwellers in the market place," and therefore I have never since found myself near enough to the beach of Usdûm to make further investigations into the facts given above. It will be a great satisfaction to me now if some one competent to determine their true significance and value will direct his attention to them.

London, June 1*st*, 1885.

HOLMAN HUNT.

THE PALESTINE EXPLORATION FUND

NOTES AND NEWS.

THE packet of papers and plans mentioned in the July *Quarterly Statement* as having been received from Herr Schumacher has been placed in the hands of the printers and engravers. The text has been carefully revised by Mr. Guy Le Strange, not in order to add anything to it or to subtract anything, but in order to anglicise a manuscript written in German-English. The volume is not yet quite ready, but may be expected in a few days. One copy will be forwarded to every subscriber who has already signified, or who will on the receipt of this *Quarterly Statement* signify his desire to possess it. It will be sent, post free, in order of application. A closer examination of Herr Schumacher's map and of his manuscript, together with an urgent request from the author, has made it necessary to change the title originally proposed. It will not be called "The Land of Jaulan," because that title, it is now perceived, would convey an incorrect impression of its contents, but "Across the Jordan," with a sub-title explaining that it is a record of exploration in parts of the Hauran and the Jaulan.

As regards the map, it should be mentioned that Herr Schumacher executed at the same time another survey of a district of equal extent to that done for us. This map, lying north of our portion, he has sent to the German Society for the Exploration of Palestine.

These explorations were made possible to Herr Schumacher by a permission to survey for a proposed railway, the observations, notes, drawings, and memoirs being executed during the course of his work. The triangulation has been found by Mr. Armstrong to fit very well with that of our own Surveys, and there has been no difficulty in laying down the map upon our sheets. A reduced map will be issued with the volume. The number of plans and drawings which illustrate the volume amount to nearly a hundred and fifty. With the volume will be reprinted Mr. Oliphant's and Mr. Guy Le Strange's papers on the country east of Jordan.

The Committee earnestly desire to draw attention to the very important Circular which has just been prepared and issued. It will be perceived that an opportunity is here presented for doing on a large and exhaustive scale what has hitherto hardly been attempted at all, namely, the collection of modern Syrian customs, usages, traditions, languages, legends, and manners. It is an inquiry

which will without doubt prove fruitful in Biblical illustration; the value of the results will depend entirely on the character of the question proposed; and it is *most earnestly hoped that every one interested in the subject*, and able to assist, will help the Committee to make this inquiry thoroughly comprehensive, and, with that view, will forward suggestions for questions. These should embrace everything, however apparently trivial, which concerns daily life, religion, tradition, arts, industries, and customs. A sub-committee will receive and arrange them under their various headings, and a beginning will be made as soon as possible. The results, if the Committee receive the support which they anticipate in this most important undertaking, should be to pour light upon many points which are at present obscure. Th expense of the work will not, it is anticipated, be very great. On this branch of inquiry, as of the Survey, it may be most truly said that the old things are fast passing away, and that if they are not very soon collected and published they may be forgotten and hopelessly lost. The following is the Circular:—

"The Committee have long had under consideration the collection of all that has to do with the manners and customs of the present inhabitants of Palestine and other parts of Syria. Attempts have been made from time to time, by residents of the country, to do this, especially by M. Clermont-Ganneau, the Rev. A. Klein, the Rev. James Niel, Mrs. Finn, Miss Rogers, and the officers of the Survey. These attempts have been necessarily incomplete, and have done little more than indicate the extent and depth of the treasures which lie hidden among the peasantry of these lands.

"Before a serious attempt could be made to carry out this inquiry successfully, it was necessary first to find an organised machinery of agents, who should be directed by some competent persons in the country, under the Committee at home. It was next necessary that these agents should speak the language of the natives perfectly, so as to note differences and peculiarities of idiom; that they should be able to command their confidence, so that the women would converse with them and answer their questions; and that they should be persons of trained intelligence, who would know the questions that should be asked and the reasons for asking them.

"This machinery, with a large body of agents highly educated and intelligent, has now been placed at the disposition of the Committee.

"It remains, therefore, to draw up questions which these agents will be invited to ask.

"It will be possible to extend the inquiry simultaneously over the whole of the land covered by the Bible. That is to say, we may carry on our inquiry at the same time over Syria, Egypt, Cyprus, Asia Minor, the Hauran, the Valley of the Euphrates, and Armenia. It is, therefore, desirable to draw up the questions with as much fulness and covering as wide an area as possible.

"The subject divides itself into the following branches:—

1. Religion and Morals.
2. Land Tenure, the Village Commune, &c.
3. Archæology.
4. Ethnology.
5. Health and Disease.
6. Superstitions.

7. Legends and Traditions.
8. Language.
9. Agriculture, including Botany, &c.
10. The Daily Life.
11. Industries.
12. Arts and Architecture.
13. Amusements and Sports.
14. Birth and Marriage, Death and Burial Laws and Customs.
15. Usages still surviving, which illustrate the Bible.
16. Traces of the successive occupants of the Holy Land.
17. Modern and ancient Literature.
18. Proverbs.
19. Science.
20. Music.
21. Natural History.
22. Peculiar manners and customs not included under any of the above headings.

"The Committee, in the work of drawing up these questions, have resolved upon asking the assistance of the following scholars and Societies:—

1. The Companies of Revision of the Old and New Testament.
2. The contributors to Smith's and Kitto's Bible Dictionaries.
3. The British and Foreign Bible Society.
4. The Scottish National Bible Society.
5. The American Bible Society.
6. The Trinitarian Bible Society.
7. The Missionary Societies.
8. Zion College.
9. The Society of Biblical Archæology.
10. The Royal Geographical Society.
11. The Society of Antiquaries.
12. The Archæological Institute and the Archæological Association.
13. The President of the late American Society for the Exploration of Palestine.
14. The Universities of Great Britain and Ireland and the Colonies.
15. The Heads of Departments in the British Museum.
16. The Department of Science and Art, South Kensington.
17. The Royal Institute of Architects.
18. The Anthropological Institute.
19. The College of Physicians and the College of Surgeons.
20. The Folk Lore Society.
21. The Cambridge Philological Society.
22. The Royal Agricultural Society.
23. The Royal Horticultural Society.

"To these will be added the Archbishops and Bishops of the Church of England, those of the Episcopal Church in Scotland and Ireland, the Colonies and the United States, the Presidents of the Established Church of Scotland the Free Church, and the United Presbyterians, the Presidents of the Wesleyan, Congregational, Baptist, and other Nonconformist bodies in Great Britain, Ireland, the Colonies, and the United States, and the Chief Rabbi of Great

Britain, and, lastly, all scholars, archæologists, and Biblical students who may be willing and able to render assistance and advice, with other societies, colleges, and institutions not included in the above which may also be usefully approached.

"We have, therefore, in communicating to you this preliminary announcement, to ask for your assistance and co-operation. We have also to call your attention to the magnitude of the enterprise, and to its great importance, whether considered from a Biblical or from any other point of view.

"We enclose a specimen page of questions. A form will be immediately prepared, and will be forwarded to you on application, and a sub-committee will be appointed for receiving, arranging, and finally preparing the questions.

W. Ebor, *President.*
James Glaisher, F.R.S., *Chairman of the Executive Committee.*
Walter Morrison, *Treasurer.*
Walter Besant, *Secretary.*"

Dr. Selah Merrill writes, on September 2nd :—

"The open space in front of the Mediterranean Hotel and the Barracks, or Castle, has been dug over during the past summer for the purpose of repaving the street, and some very interesting remains have been brought to light. The most interesting of all, however, is what I consider to be the actual remains of the second wall found between Duisburg's Store (formerly Spittler's) and the Jaffa Gate, at a depth of 15 feet below the surface of the ground; the stones are similar to the large bevelled stones in the Castle opposite. I will send you a plan of these ruins in a few days, perhaps by the next mail."

New editions of "Tent work in Palestine" and "Heth and Moab," Captain Conder's popular works, have been issued at 6*s.* each. Professor Hull's "Mount Seir" is also now ready at the same price.

Professor Hull's scientific Memoir on the Geology of Palestine is now in the press, and will be shortly issued. It will be uniform with the "Survey of Western Palestine."

Mr. H. Chichester Hart's Memoir on the Flora and Fauna of the Wâdy Arabah will also be issued as soon as possible in the same form and size.

A paper by the Rev. W. F. Birch on Acra has been unavoidably kept back until January.

As regards the copies which remain of the "Survey of Western Palestine," the friends of the Society are urged to get them placed in public libraries. The work will not be reprinted, and will never be sold by the Committee at a lower price; and as it becomes known, for the *only* scientific account of Western Palestine, it will certainly acquire a yearly increasing value. Five hundred were printed, and the type is now distributed.

The Palestine Pilgrims' Text Society has now in hand—(1) A translation of Procopius, that is to say, such parts as concern the buildings of Justinian. This has been annotated by Professor Hayter Lewis. It will also be illustrated by numerous drawings. (2) The Bordeaux Pilgrim, which is receiving notes from Sir Charles Wilson. (3) The Pilgrimage of the Abbot Daniel, which is translated and ready for the press. (4) The Travels of an early Persian Pilgrim, translated by Mr. Guy Le Strange.

The income of the Society, from June 17th to September 21st inclusive, was —from subscriptions and donations £168 12*s.*, from all sources £247 5*s.* 5*d.*, The expenditure during the same period was £498 12*s.* 10*d.* On October 1st the balance in the Banks was £167 16*s.* 7*d.*

It is suggested to subscribers that the safest and most convenient manner of paying subscriptions is through a Bank. Many subscribers have adopted this method, which removes the danger of loss or miscarriage, and renders unnecessary the acknowledgment by official receipt and letter.

Subscribers who do not receive the *Quarterly Statement* regularly, are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

The only authorised lecturers for the Society are—

(1) The Rev. Henry Geary, Vicar of St. Thomas's, Portman Square. His lectures are on the following subjects :—
   The Survey of Western Palestine, as illustrating Bible History.
   Palestine East of the Jordan.
   The Jerusalem Excavations.
   A Restoration of Ancient Jerusalem. Illustrated by original photographs shown as "dissolving views."

(2) The Rev. James King, Vicar of St. Mary's, Berwick. His subjects are as follows :—
   The Survey of Western Palestine.
   Jerusalem.
   The Hittites.
   The Moabite Stone and other monuments.

(3) The Rev. James Neil, formerly Incumbent of Christ Church, Jerusalem.

(4) The Rev. George St. Clair, formerly Lecturer to the Society, is about to organise, by arrangement with the Committee, a course of lectures this winter on the work of the Society.

PROFESSOR SOCIN ON THE SURVEY OF WESTERN PALESTINE.

In the October number of the *Expositor*, Professor Socin, of Tübingen, contributes a paper called a "Critical Estimate of the Work of the Palestine Exploration Fund." It is not customary with us to reply to criticisms on our work, and in this case we should have refrained from comment on Professor Socin's remarks, except for the fact that certain observations of his, made in the most excellent spirit and with the best intentions, will, if not noted and answered, mislead his readers and our supporters. Professor Socin begins and ends his paper with a most courteous and friendly acknowledgment of the importance of the Society's work. "The Memoirs," he says, "by reason of the new material which they afford, will continue for decades to be the standard work from which Palestine research must set out."

Professor Socin's remarks deal first with the accuracy of the map; next with the Name Lists; thirdly, with Canon Tristram; fourthly, with Captain Conder; and lastly, with what he calls the Results of the Survey. He also touches on the discussions carried on in the *Quarterly Statement*.

(1.) As regards the accuracy of the map. It does not appear, when Professor Socin compares our map with that of M. Guérin, as if he exactly understands the main difference between our map and all other maps of Palestine. Ours is surveyed by triangulation; all others are constructed by some system of "dead reckoning." Now a triangulation is subject to an almost infallible test of accuracy. It is this. At the outset a base line is measured; at any part of the triangulation it is possible to measure by chain any of the lines the lengths of which have been obtained by calculation. The actual measured length should correspond with the calculated length. This has been done by our surveyors, and with most satisfactory results. As a matter of fact M. Guérin's book, which contains a few details not noted by our officers, does not contain one-half the number of names and places; while his map cannot pretend to scientific accuracy as to position, and as to watercourses, hills, and streams it is, and must be, practically useless. It is, in fact, impossible that one man working alone, and without scientific method, should produce a map in any way comparable to that surveyed by Royal Engineers.

(2.) Next as to the Name Lists. Professor Socin states that the "members of the Survey, who manifestly were not Arabic scholars, repeated the names which they had gathered to the scribe Kassatly, instead of his collecting them from the lips of the guides and natives." This is not by any means a correct way of describing the method followed, which was as follows:—The surveyors, in the course of their day's work, collected and wrote down in their own way—the guide being present—the names which they got from the natives. In the evening, on their return, each of them handed in to Captain Conder the day's list, which was gone through by Kassatly, *with the native guide*, and written down by him, or by Captain Conder at his dictation. The surveyors, therefore, had nothing to do

with the spelling of the names, for which Kassatly and the guides are responsible.

Next, as regards the list of the common place appellatives, which, according to Professor Socin, "must have been drawn up by one who had no knowledge of Arabic grammar." It was *drawn up by Professor Palmer himself.* It must, however, be understood that he set down, as was done in the map, not the literary Arabic at all, which was not wanted, but the fellahîn Arabic. Thus, to take in order each one of the cases mentioned by Professor Socin. It is true that the plural of "Bâb" is not "buwâb;" it is "bawwâb." But the natives of Palestine, like the English, are not good at the double consonant. They do not say "bawwâb," but "buwâb." So also of the plural of *birkeh:* they do not say *burak*, but *burâk*, and the popular plural of *tell* is, as stated in the list, *tellûl.* The ending *eh* is also given on the map as it was pronounced, which accounts for an occasional variation. And as regards the word *Sh'aîb*, it is written, as nearly as possible, as pronounced. The literary way would have been to write it Shŭ'aib, but in common speech the vowels at the beginning of a word are generally slurred over. The surveyors, in fact, set down the names as the people pronounce them. Thus, to take the last of Professor Socin's instances, *Khurbeh*, or *Khurbet*, the literary name would be, *e.g.*, *Khurbetu Ainab*, which in the vulgar speech becomes Khurbet Ainab, and when the word is used by itself simply *Khurbeh*, and as a rough rule for travellers who are not Arabic scholars it is quite correct to say that *Khurbeh* in Palestine becomes *Khurbet* before a vowel.

A corresponding example has been suggested to me. On the Ordnance Survey of Oxfordshire will be found a place called *Shotover.* It is so set down because the people call it *Shotover.* Its original name is supposed to have been *Chateau vert.* Yet surely the surveyors were right in setting down the popular name. Again, on Dartmoor is a mountain called on the Survey maps *Hamilton Down.* The people call it Hamildon, or Hamilton, and so misled the surveyors, because its real name is Hamil dun, *i.e.*, I believe, the Black Down.

As regards Professor Socin's strictures on the etymologies proposed by Professor Palmer, the identifications proposed by Captain Conder or M. Ganneau, the Hebrew and Arabic of Canon Tristram, or the Tribe boundaries laid down by Mr. Trelawney Saunders, we have nothing at all to say. These gentlemen are, with one exception, quite able to defend themselves against any attacks which may be made on them. As regards that one exception, Professor Palmer's etymologies are on record, as his opinion, and will stand or fall as they are right or wrong, and as the common speech of the Syrian natives becomes better known. In his lifetime there was no better authority on the modern Syrian dialects. Professor Socin, however, raises one other point which commands attention from us. It has been the custom of the Committee to open the pages of its Journal to the free discussion of all points connected with the topography of the Holy Land, routes, itineraries, &c., connected with its history. The Journal has become the recognised—almost the only—organ

for the discussion of these points. It therefore happens that a great many pages may be devoted to the site, say, of Emmaus. This practice, Professor Socin points out, may lead to the general adoption of a wrong theory, or at all events of sites and routes which do not commend themselves to many scholars and students. This may possibly happen. But the best way to prevent it from happening is for every opinion to be represented. The *Quarterly Statement* is read by Palestine students over the whole world. If this is borne in mind by Professor Socin, he may himself perhaps be minded to prevent the spread of what he considers error.

The *work* of the Society, properly so-called—all that the Committee are called upon to defend—is the mass of *facts* which it has been able to amass and is still amassing. A practically impregnable map, for instance; an immense Name List, which may be added to and even revised: great discoveries in Jerusalem and elsewhere: a Geological Survey, not yet published: thousands of ruins sketched and surveyed,—this constitutes the work that has been done. But theories, etymologies, illustrations, tribe boundaries, and speculation generally do not constitute the work of the Society, and must not be criticised under that name. W. B.

NEW DISCOVERIES IN JERUSALEM.

By Selah Merrill, D.D., LL.D.

During the past two or three months some very interesting tombs have been discovered in the western slope of the hill above Jeremiah's Grotto. As these appear to have direct connection with the church in that vicinity described by Captain Conder and Lieutenant Mantell in the *Quarterly Statement* for April, 1882, pp. 116–120, and further described by myself in the *Quarterly Statement* for October, 1883, pp. 238–242, the reader is referred to those two articles for the previous history of excavations in this quarter.

On page 241 (as above) I stated that the ruins appeared to extend under ground to the south-east and east of the point where the Mosaic floor (see page 239) was found, and spoke of the desirableness of the work of excavation being extended in those directions. During the past year (1884) this work has been done to a certain degree, and my supposition has been confirmed by the new facts disclosed.

There was found a short distance south-east of the Mosaic floor, the threshold of a door. This was 8 feet long and 4 feet above the level of the Mosaic floor, and may have belonged to a later structure, unless it was a window in the older structure, which does not seem possible. Its size and the work upon it give the impression that it formed an important part of some large building.

The watercourse described on page 239 was found to extend much farther to the east, and in fact it disappears again in the mass of rubbish beyond the limit of the excavations in that direction. Before it disappears it turns by nearly a right angle to the south, and at the angle there is a large basin, or rather a small reservoir, still quite perfect.

Some 30 feet east of the Mosaic floor, and beyond a thick wall which belonged to the later structure, the base of a column, in position, was found, and this, I should judge, evidently formed a part of the older of the two churches which I have described.

Just north of the point where this base of a column was found, the large roof of a later structure has fallen in, and above the centre of its arch, which in the collapse of the building was inverted, the *débris* is fully 10 feet deep. This ruined building, whatever it was, now forms part of the mound which has yet to a large extent to be excavated.

Twenty feet south-east of this base of a column a deep channel or passage was found to have been cut in the solid rock, apparently coming from the north, and turning a right angle towards the east, in both of which directions it is covered by the great mound of *débris* just mentioned. This passage has been followed down 10 or more feet. The rock walls are vertical, and the passage, which is uniform in width, is 2 feet wide. The rubbish or mound above the surface of the rock is 10 to 15 feet in depth. It will be very interesting to learn the object of this deep channel, and where it leads to. It will be understood that as the bottom of the channel has not yet been reached, I report only the depth to which the clearing has already extended. Perhaps I ought to say that excavations in this particular part of the ruin were suspended nearly a year ago.

Among other things brought to light is a section of a column 15 feet long, 33 inches in diameter, and of the same character as those described on page 241.

The distance from the Mosaic floor to the place where the newly discovered tombs are found is about 60 yards in a south-east direction. They were really discovered by accident. To enclose this large plot of ground, and thus separate it from the road leading up the Jeremiah-Grotto Hill, a high wall was built, and in digging for a foundation for this the workmen dug into the tombs in question. In fact, where the wall passes over them they are very near the surface of the ground, although the *débris* on their west side was 10 feet deep.

The five accompanying plans will give a pretty correct idea of the character of these tombs.

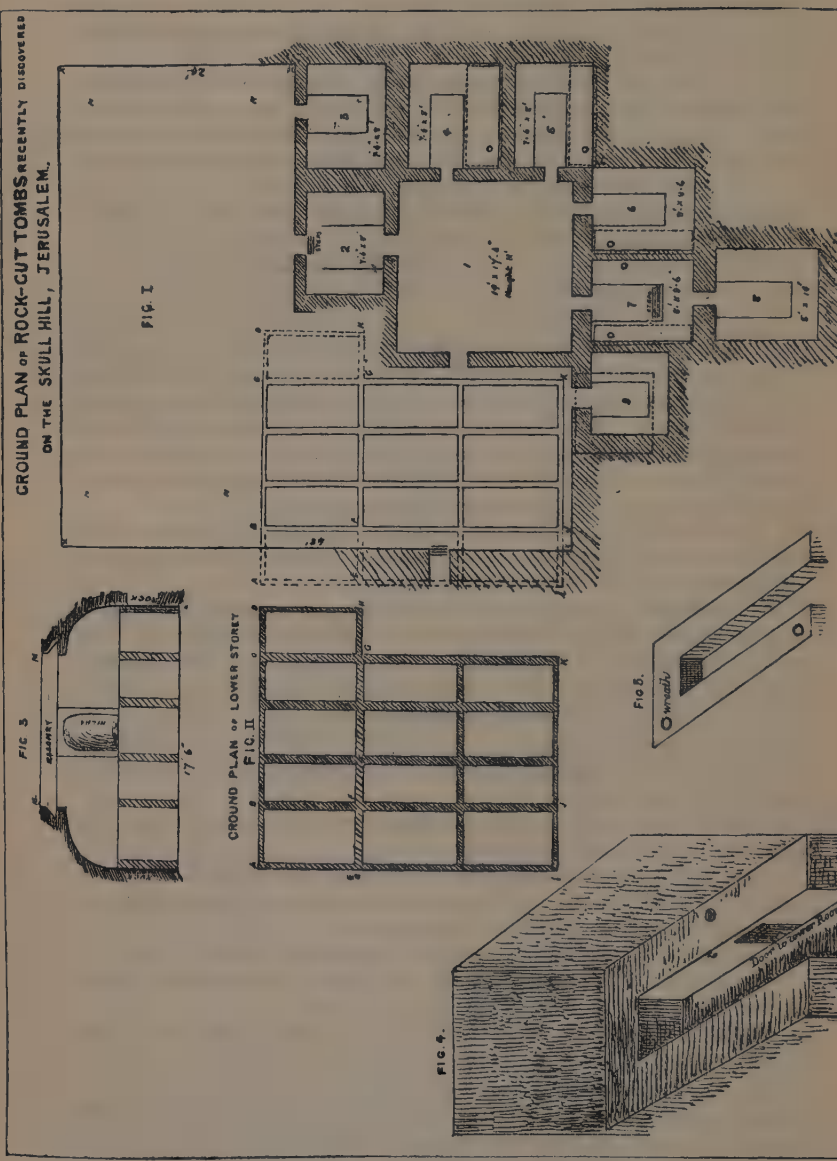
Figure No. 1 is a ground plan of the tombs, of which there are two storeys. The lower storey was covered partly by a roof and partly by the side tombs being cut under the overlying rock.

Figure No. 2 is a ground plan of the lower storey of tombs.

Figure No. 3 shows the vertical wall at the west end of the lower storey of tombs, and how the roof was fitted into the rock.

Figure No. 4 shows the form of the separate rooms, a side, the top, and the front of one of the rooms being removed for that purpose.

Figure No. 5 shows a curious device found in one or more of the tombs (but not in all), namely, a kind of wreath in relief where the head would naturally be placed. Singularly enough, in tomb No. 7 they are found both at the head and the foot. The tombs being of such unusual size it is possible that two bodies were laid on one side, or bench.


GROUND PLAN OF ROCK-CUT TOMBS RECENTLY DISCOVERED ON THE SKULL HILL, JERUSALEM.
FIG. I
FIG. 3
QUARRY
17' 6"
GROUND PLAN OF LOWER STOREY
FIG. II
FIG 8.
FIG. 4.

Room No. 1, Fig. I, seems to have been a large hall or chapel from which the rooms surrounding it led off in different directions. These are numbered from 1 to 9, Fig. I. Underneath these, or portions of them, are other rooms, represented by dotted lines, which are not numbered. The floors of the different rooms are all on a level with the floor of the chapel, with the exception of 2, which is not certain, and No. 8. A person would leave room No. 1, enter the door of room No. 7, and after a few feet ascend four steps and enter room No. 8, which is on a higher level than the others. Room No. 8 is the largest of all the rooms surrounding No. 1, or the chapel.

Between rooms No. 3 and 4 there was a hole or passage, but it seems to have been caused by a subsequent breaking away of the rock rather than to have been a doorway in the original structure.

Underneath a portion of the structure there was a vault for thirteen bodies or sarcophagi, represented in Fig. I, partly by solid and partly by dotted lines, and marked by the letters *A*, *B*, *C*, *D*, *E*, *F*, *G*, *H*, *I*, *J*, *K*. This vault was so constructed that the portion *B*, *C*, *J*, *K*, was roofed over (*MM*, Fig. 3), while the parts *A*, *B*, *I*, *J*, and *C*, *D*, *G*, *H*, were cut under the rock as seen on the right and left in Fig. 3. These thirteen graves were arranged in three rows, five in the western row and four in each of the two others. On the right hand side (see Fig. II and Fig. 3), only one tomb, *C*, *D*, *G*, *H*, was cut under the rock. The reason doubtless was that the designers did not wish to weaken the walls and floor of room No. 1, Fig. 1. The roof stones over *B*, *C*, *J*, *K* (Fig. i), were nicely fitted into the rock as seen in Fig. 3.

At *L* there was a large door, 3 feet wide and 6 feet high, with steps leading from the outside down upon the roof (*MM*, Fig. 3) over the vault *B*, *C*, *J*, *K*, Fig. I. This roof was on a level with the floor of room No. 1, Fig. I. The door at *L*, and that of room No. 1, were nearly opposite to each other. The roof over the vault being now broken in, we cannot say how one descended to it. This roof was 6 feet or 6½ feet above the floor of the vault.

In the vertical wall of the western end of the vault (Fig. 3), over the middle place or receptacle, there is a niche, and a corresponding niche in the eastern wall. These niches were directly opposite to each other, but there being only four receptacles in the eastern row, the niche in the eastern wall must of course have one receptable on one side of it and two receptacles on the other side.

The south wall of room No. 2 has been broken away, but being so much above the level of the vault, neither the roof of that nor any portion of *C*, *D*, *G*, *H* were in any manner affected by it.

The large space on the west, *N*, *N*, *N*, *N*, appears like the bed of a quarry, the general level of which being the same as that of the roof over the vault. This bed slopes considerably, however, towards the south-west. The *débris* over this portion was 10 feet deep, and sloped upwards towards the hill above Jeremiah's Grotto. These tombs were excavated in the western or north-western slope of the Jeremiah-Grotto Hill, and the road by which one ordinarily ascends this hill passes over rooms No. 6, 7, and 8, Fig.I.

Underneath rooms No. 4, 5, 6, 7, and 9, Fig. I, smaller rooms are shown by dotted lines. That under room No. 9 is different in shape from the rest, and not quite perfect. With this exception these rooms are 4 feet wide, 3 feet high, and of the same length as the rooms above them. They are in each case on the right hand of the person entering the rooms. They were entered by doors $2\frac{1}{2}$ feet high, and of nearly the same width, cut in the vertical walls of the benches above them (Fig. 4). In the benches above the small rooms there was in each case a large hole marked by a circle in rooms Nos. 4, 5, 6, and 7, Fig. I. The actual arrangement is best seen in Fig. 4, which shows the interior of one of these rooms, the top, one side, and the front being removed so that the three benches for bodies or sarcophagi can be seen, also the passage into the room, the door in the vertical wall of the bench at the right hand leading to the small room and the hole in the bench above the small room. Room No. 7 has two such holes. (For what were these holes designed?—for ventilation? The Arabs say that they were made so that the dead could speak to each other.)

The walls in all the rooms are vertical, and the ceilings horizontal. This remark is intended to imply that there are no arches lengthways of the rooms, as are found in some tombs, over the benches where the bodies or sarcophagi were placed.

Room No. 8, Fig. I, is noticeable by its size, being larger than any of the others surrounding the chapel. I have explained above that it is on a higher level than the others. Moreover, the places for bodies in front and on the right and left hand were not benches as in the case of the other rooms (see Fig. 4), but open boxes like very large sarcophagi. The lids had been removed, whether by the present workmen or in former times I cannot say. Sarcophagi with their own proper lids may have been placed in these stone boxes.

It is reported that crosses have been found, but I saw none, and none were pointed out to me. Likewise, that inscriptions were found in connection with the broken sarcophagi. These had been removed and taken out of the country (so I was told). It may be, however, that, if they really existed, they were simply concealed in Jerusalem, and jealously guarded by the Latins to whom the place now belongs. I may say in passing that my visits, I felt, were looked upon with suspicion, hence I made my observations as quickly as possible and withdrew so as to avoid giving offence.

Great quantities of boues were found and carefully preserved in boxes, They may hereafter serve some priestly or churchly purpose when the place and time have been prepared for their use.

In the middle receptacle of the western row of graves, over which I have said that there existed a niche, there is a part, perhaps one-half, of a sarcophagus still remaining, and it may be that sarcophagi were placed in all these thirteen receptacles. Perhaps it will be understood without my saying it that what I have called receptacles are sunk in the solid rock.

Owing to a fact which I have alluded to above, my measurements were not minutely exact, but sufficiently so, I trust, for all practical purposes, and I will give some of them in detail. Room No. 1, which I have called a chapel,

is 14 feet by 17 feet 6 inches, and 11 feet high. Room No. 2 is broken, and the same is true of room No. 3, but the latter was 7 feet 6 inches by 8 feet. There was here also, as in some of the other rooms, the small room under the right hand bench. This I have indicated by dotted lines because the room was not absolutely perfect. Its construction, however, was like the others. Rooms No. 4 and 5 were each 7 feet 6 inches by 8 feet, and 6 feet high. Rooms No. 6 and 7 were a little larger, being 8 feet by 8 feet 6 inches, and 8 feet high. Room No. 8 was 8 feet by 10 feet, and 9 feet high, being, as I have said, the most spacious of all those surrounding the chapel. The doors of these different rooms were 6 feet high and about 3 feet wide. The width from wall to wall across the western row of receptacles (see Fig. 3) was 17 feet 6 inches. The entire length of the three rows of receptacles I did not get. The distance from the broken western wall of room No. 3 to the western side of the space marked *N*, *N*, *N*, *N*, is 24 feet, and that from the north to the south side of the same space is 48 feet.

Since the 1st of July of the present year the work of clearing away the rubbish has ceased, and forty or fifty workmen have been busily employed in erecting some sort of a chapel or church over the entire space marked in the plan. My plan, however, is of the ruin as I saw it before the building was commenced. Some parts will necessarily be walled in, but doubtless the idea is to preserve the tombs intact as far as possible.

It may be that some of those who read this article will have seen the model of the Golgotha Hill prepared by General Gordon, and if so they will be interested to know that the tomb represented on the side of that model is only ten yards distant from room No. 8 in my plan. Otherwise the tombs have no apparent connection.

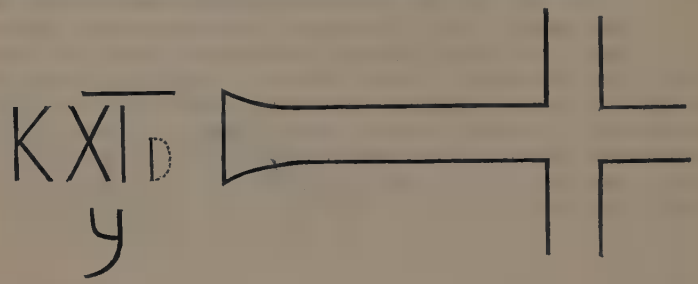
These newly discovered tombs appear to be Christian and not Jewish. It is well known that after the reputed discovery of the body of St. Stephen a magnificent church was erected to his memory by the Empress Eudocia, the wife of Theodosius the younger. The church was dedicated in A.D. 460, and the Empress herself was buried in it. This church was on the north of the city not far from the present Damascus Gate, which for ten centuries subsequent to this event bore the name of St. Peter's Gate. The church was built on the supposed place of the martyrdom of St. Stephen.

Jerusalem, August 18th, 1885.

Postscript.

Since excavations in this particular quarter are assuming, as will be seen by the foregoing article, special importance, I would like to add a note to my description of the two churches which appeared in the *Quarterly Statement* for October, 1883; for the reason that on page 240 a singular mistake has somehow been made. It is in connection with the inscription which I found in the tomb near the Mosaic floor. As printed, two horizontal bars appear before, that is, on the left hand of the inscription, which I certainly did not place there. Two lines below the inscription I wrote: "extends from the '*X*' to the small character at the end;" and instead

of inserting the letter or character "*X*," the printer has substituted the word "cross," which makes a bad mess with the sense I intended to convey. To set matters right it will be necessary to reproduce the inscription and the left hand bar of the cross as follows. It will be understood that the large cross was on the right hand of the inscription to one facing it.



NOTES BY CAPTAIN CONDER.

I HAVE just got the *Quarterly Statement* for July, and though very busy with boundary and land questions here, I should like to send you a note or two. It is a valuable number, and I am only sorry not to have seen the two preceding.

On page 154 I should like to say that though the proposed sites for Golan and Alema are possible, the suggestion of *'Arkûb er Rahwah* for Argob is inadmissible. It has only the B and the R in common, and 'Arkûb is the common word for a "ridge." The Arabic for Argob would be Arjib or Rujib, and such places as Kefr Arjib and the northern Rujib are more suitable. Argob was, however, east of Golan to the best of my remembrance.

On page 159, I think the hot springs near Pella were probably some of those further north at Gadara. The whole of the paper by Mr. Guy le Strange is most interesting. Perhaps he may have noticed whether there are any mason's marks on the masonry at Kala't er Rubud, which would settle the Crusading origin which I always attributed to this castle, which I have only seen in the distance, but which Mr. Tyrwhitt Drake visited and considered Crusading.

Page 183.—The so-called altar at Zorah resembles many rock cuttings familiar to explorers in Palestine, which result from the quarrying of stone. Manoah would hardly have used an altar of cut stone.

Page 184.—The objection as to En Rogel raises the question of the dates and authorship of Old Testament books, which is evidently not one to be discussed in the *Quarterly Statement*.

Page 181.—Mr. Drake and I, in 1873, found what we took to be an overturned Dolmen in Judea, near the village of Jeb'a (Gibeah of

Benjamin), and I have noticed possible traces of others in "Heth and Moab."

I find some difficulty in bridging the gap which seems to me to occur so often in Mr. Birch's arguments between the proposition and the "therefore." He says I am wrong in saying that later kings built a wall round Ophel, but I think the Bible mentions these kings by name. He says he has proved Hinnom to be the Kedron, but if he has done so to his own satisfaction, he has not convinced other writers. Mr. Birch seems to me to forget how often he has changed his own views when he is severe on others for inconsistency. He might, perhaps, not think it worth while to read what I have recently said on the controversies, in the Jerusalem volume, and in my Primer of Bible Geography. At any rate, Mr. Birch admits the impossibility of confining ancient Jerusalem to the small area on Ophel, and if he agrees that David and Solomon walled in the Upper City, his views as to the limitation of the words Zion and City of David are of secondary importance. I hold Zion to be the poetical name of Jerusalem, and the City of David to be the Jerusalem of David's time. All I am really interested in is the defeat of a new heresy which seems to me mischievous and absurd, namely, that the Jerusalem of David and Ezra was confined to the narrow ridge south of the Temple. Such an idea cannot be reconciled with the Book of Ezra, or with earlier biblical books, and represents the *reductio ad absurdam* of Jerusalem controversy.

C. R. Conder, *Captain R.E.*

Taungs, Bechuanaland,
August 18th, 1885.

NOTES.

I. Through the kindness of Professor Maspero I am able to correct one point in my note (*Quarterly Statement*, 1885, p. 108) on the identification of the important point Berothah or Berothai, on the northern frontier of David's kingdom.

The name of the place No. 141 in the Karnak List, as given by M. Golenischeff in his corrected readings (*Zeit. f. Aeg. Spr.*, 1882, p. 145 *and plate*) is imperfect in its first hieroglyphic sign, which appeared to me to be  = *b*. But M. Maspero has since read it on the pylon at Karnak as  , *i.e.*,  , so that the name is not Buresu, but Zuresu. This, however, does not affect my proposal to identify Berothah with Brisa in the wâdy where M. Pognon found the rock-inscriptions of Nebuchadrezzar.

II. In my short article in the April *Quarterly* on Exploration in the Nile Delta there are a few insignificant misprints which every reader will correct for himself; but one needs explicit notice. On page 115, for  read , the last sign being the determinative, a serpent,

Henry George Tomkins.

I LAST week forwarded you tracings of plan of the recently discovered Zorah altar. That it is "strongly suggestive" of the passage Judges xiii, 19, 20, is undeniable.

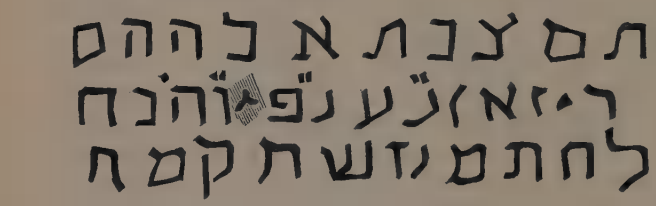
I would now merely call attention to the fact that "the great stone of Abel," which appears to have marked the limit or boundary between the Beth Shemesh lands and the Philistine territory (1 Sam. vi, 12–19) could not have been far distant. The shrine of Abu Mésar at Ain Shems (Beth Shemesh) is boldly visible from the altar, and about three-quarters of an hour's walk distant (at the furthest) in a south-west direction.

Standing on the hill-sides close to Zorah, with the altar and Ain Shems in full view, the two old narratives seem to assume new and living proportions, and blend and dovetail wonderfully at the spot where stands the lately found sacrificial monument.

In conclusion, I would mention that the German Exploration Society have excavated the altar, the total height of which is 2 metres. I believe that excavations are still being carried on at Artouf for the same Society.

J. E. HANAUER.

A FEW weeks ago I had to survey a part of the interior of *Tiberias*, and found by chance a small column of white marble 1 foot 5 inches long and 9 inches in diameter, which was just dug out in the garden of the Greek convent in the extreme south of the town, and which bears the following Hebrew inscription:—



I am not a Hebrew scholar, but I was told that it bears the date 4148, and was a gravestone.

I have also looked with interest into the large circular vaults which border Tiberias from the sea side, and are built close to the city wall of the east and south. They are not built very carefully, but are strong and very spacious. Their building area must be that of this last city wall and fortress. The city wall on the sea side is generally 10 feet 2 inches thick. The new Greek convent will now be built on top of its south-eastern corner, and the partly sunk round corner tower there will be restored.

Haifa, July 31*st*, 1885.

G. SCHUMACHER.

A NATURALIST'S JOURNEY TO SINAI, PETRA, AND SOUTH PALESTINE.

By H. Chichester Hart.

CHAPTER I.

Introductory.

Early in the summer of 1883 my friend Professor Hull, Director of the Geological Survey of Ireland, proposed to me that I should accompany him as a volunteer on a geological and surveying expedition to Sinai and the Dead Sea, of which he was about to take the leadership under the auspices of the Palestine Exploration Society.

With the main object of studying the botany of this region, and as far as possible also other branches of its natural history, I accepted this friendly offer. I was chiefly induced to do so by the assurance I received from Professor Oliver, of Kew, that, whatever our Continental brethren may have accomplished, few British botanists had as yet turned their attention to Sinai. He at the same time promised his valuable assistance in the determination of my specimens upon my return—a promise since fulfilled in a manner which entitles him to my sincerest thanks. Another welcome consideration which helped to determine me was that of a grant of money from the Scientific Fund of the Royal Irish Academy.

I feel bound to take this earliest opportunity of expressing my grateful sense of the courtesy of the Rev. Canon Tristram, the well-known authority on the Natural History of Palestine, who has helped me with his advice before starting, and his scientific assistance since my return. To him the determination of my species of birds, as well as of land and freshwater molluscs, is almost entirely due, and his recent work on the "Fauna and Flora of Western Palestine" has been continually consulted in preparing the present account.

To Dr. Gunther, F.R.S., and to Messrs. Waterhouse and Thomas, of the British Museum, my thanks are due for the naming of other smaller collections of mammals, reptiles, and beetles. Mr. Edgar Smith, of the Conchological Department, has also been good enough to render me as much assistance as his duties would permit in searching for information on the Mollusc-fauna of the Red Sea.

To Mons. Edmond Boissier, the eminent Swiss botanist and author of the invaluable "Flora Orientalis," I desire to tender my warmest acknowledgments. He has very kindly determined for me some of the more intricate genera, which his unrivalled knowledge and extensive Oriental herbarium enable him to deal with satisfactorily. Of Mons. Boissier's "Flora Orientalis" I have constantly availed myself in dealing with the flora of Sinai. Botanists whose inclinations turn, as mine do, to the geographical distribution of plants will find this work, which is now complete, a perfect storehouse of information.

Reference must here be made to the Ordnance Survey of Sinai, published in 1869, where much valuable information on the physical features and natural history of the Peninsula will be found, especially in the appendices by Mr. Wyatt. An interesting paper by Mr. Lowne, on the Flora of Sinai, in the Journal of the Linnean Society for 1865, may also be referred to; his nomenclature, however, differs widely from that at present adopted. There is little other botanical literature available; Decaisne's *Florula Sinaica*, published in the "Annales des Sciences Naturelles" in 1836, in which many new species are described, is difficult to obtain separately; it is, however, very valuable, but the collections of Schimper and others, distributed throughout the herbaria of Europe, and duly recorded in Boissier's "Flora Orientalis," have nearly doubled Decaisne's original total.

I desire also to express my gratitude to Mr. A. G. More, the well-known naturalist in charge of the Natural History Department of the Museum of Science and Art in Dublin, who has been always most good-natured in rendering me advice and assistance as far as lay in his power.

I must not omit to acknowledge the judicious and kindly guidance by which (with the assistance of our most efficient interpreter and conductor, Bernard Heilpern) Professor Hull brought our travels to a safe conclusion. In a volume recently published by the Society, Professor Hull has given the public an account of our experiences, and to it, and its Appendix by Major Kitchener, the reader may turn for fuller geological, geographical, and other information relative to our explorations. To the other members of our party, for their continual kindness in obtaining specimens for me, I shall feel for ever grateful.

In these pages, which owe their appearance to the liberality of the same Society, I propose in the first place to give a running account of the collections made in the order in which they were gathered, with such extracts from my journal as may serve to illustrate them. Afterwards I will enumerate in detail the various species which I have identified, and conclude with an endeavour to give a full account and analysis of the Flora of Sinai, or rather of the Sinaitic peninsula of Arabia Petræa.

For the systematic list of plants, with their localities, I refer my readers to the Transactions of the Royal Irish Academy, where descriptions of the new species with figures will be found. The specimens themselves are in the Herbaria of Kew and the British Museum.

CHAPTER II.

Ain Musa to Wâdy Lebweh.

Having left Suez on Saturday, November 10th, 1883, we took up our quarters till Monday at Ain Musa, the usual starting place for Sinai. A description of the gardens here, with the introduced plants found about them, has been given by Mons. Barbey, in his recent volume "Herborisations au Levant," who visited them at a more auspicious season. His tour did not elsewhere cover the ground we visited till reaching Bir es Seba.

At Ain Musa my hopes fell to a low ebb. With the exception of a couple of showy flowering shrubs (*Lantana camera Linn.*, and *Cassia bicapsularis Linn.*) in the gardens of date palm, bounded by prickly pear, there appeared to be hardly a vestige of unwithered vegetable life. Closer inspection, however, yielded dead flowers and ripe seed capsules of several species, all of which were carefully preserved for comparison with subsequent gatherings. One species, *Ceratophyllum demersum L.*, found drifting in the gulf, and probably derived from the canal, was not met with again. A prostrate prickly grass in the sandy stony flat between the wells (*Ain Musa*) of Moses and the gulf has been named for me by Mons. Boissier, *Sporobolus spicatus Vahl.*

In these enclosures, and around their edges, were bushes of tamarisks and "ghurkūd," *Tamarix nilotica Ehr.*, *T. articulata Vahl.* (?), and *Nitraria tridentata Desf.* The latter is a prickly, fleshy-leaved shrub with small orange berries, greedily eaten by camels. It belongs to the "bean-caper" family (Zygophyllaceæ), well represented in the desert.

From one of the wells numerous univalves, all of one species, *Melania tuberculata Mull.*, were obtained. The net produced nothing else except the larvæ of a gnat. A chamæleon (*Chamæleo vulgaris Linn.*) and a small very nimble brown lizard (*Eremias gutto-lineata*) were captured close by. The former was pointed out to me by a Bedouin on a stunted palm-tree, else I should assuredly have passed it by, so closely did it resemble the branch along which it clung.

The chief attraction at this oasis was in the birds, of which several species were obtained. Amongst these were the white wagtail and the willow-wren (*Motacilla alba Linn.*, and *Phylloscopus rufus Bechst*). A buff-backed heron, *Ardeola russata Wagl.*, was seen but not shot: this is the bird which does duty for the "white ibis" amongst visitors. A little cock-tailed warbler with a song and habit of a wren, *Drymoeca inquieta Rupp*, as well as the blue-throated robin, *Cyanecula cæruleculus Pall.* (the one with the entire blue throat), was shot here.

Across the sand to the shores of the gulf many kinds of sea shell were gathered. A detailed account of these, as well as of those obtained at Akaba, will be given later on. Few specimens worth preserving were met with, but they were for the most part identifiable. At the water's edge a stork gave me a long shot, and several dunlins were flying about.

At evening the air was filled with the attractive notes of species of cicada, and the quaint call of an owl (*Athene meridionalis Risso.*), the "boomey" of the Arabs, was for the first time heard.

Insect life was almost suspended, but a few small beetles (*Adesmia*, *Acis*), ants (*Camponotus*), and a spider or two, as well as a torpid scorpion, were captured about here, and between this and Wâdy Nusb.

Excepting at wells, met with at rare intervals, life of all kinds was very scarce in this lower desert portion of Sinai. The appearance of a bird within a quarter of a mile in these wastes was a signal for a general call to arms amongst the gunners, and the gurgling sound of the Bedouin camel-driver summoned his obstinate beast to kneel and let

his rider dismount and stalk a distant Egyptian vulture or a raven. These two birds, *Neophron percnopterus Linn.* and *Corvus umbrinus Hedenb.*, were frequently in sight, but rarely in range.

After a day or two, when my Bedouin lad, Khalîl, had discovered which of us two was master, I generally travelled on foot, letting my camel-driver keep me in view till wanted. For this interesting and faithful son of the desert I conceived a great liking. This feeling towards the Arabs is very frequently indulged in by inexperienced travellers in the East.

As fast as I made gatherings, I was able to deposit them on the back of my admirable beast of burthen. For this purpose I had two sets of camel bags and drying boards, as well as multifarious swinging gear; guns, spy-glass, water-bottle, shoulder-bag, spirit cylinder, portfolios, insect box, *et hoc genus omne.*

The country traversed was of gravel and sand, with occasional outcrops of limestone. This limestone sand is sometimes finely and regularly granulated, as near Wâdy Sudr, a condition not observed by us in other parts of Sinai. The view of the Jebel Rahah mountains across the Gulf of Suez was superb.

Our direction lay nearly parallel to this arm of the Red Sea, gradually widening the distance between us and the coast-line. The sky was of a brilliant blue, and the temperature rarely hot enough to make walking disagreeable. The following plants were observed in Wâdy Sudr:—*Zilla myagroides Desf.*, *Retama retam Forsk.*, *Alhagi maurorum D.C.*, *Acacia Seyal Del.*, *Deverra tortuosa Gœrtn.*, *Anabasis articulata Forsk.*, *Reaumuria vermicularis Linn.* (*R. palæstina Boiss.*), *Fagonia cretica Linn.*, var. *glutinosa* et vars., *Erodium glaucophyllum Ait.*, *Citrullus colocynthis Lehr.*, *Artemisia judaica Linn.*, *Odontospermum graveolens S. Bip.*, *Gymnocarpus fruticosus Pers.*, *Paronychia desertorum Boiss.*, *Ærua javanica Juss.*, *Heliotropium luteum Poir.*, *Aristida obtusa Del.* Most of these are strictly desert species of continual occurrence in the lower parts of the peninsula, and will seldom again be referred to. In Wâdy Sudr *Farsetia ægyptiaca Turr.* and *Anabasis setifera Moq.* were also obtained.

The Citrullus bore its ripe fruit, orange-coloured and about the size of a billiard ball, trailing on the gravel and sand in many places.[1] The felted Ærua was laden with tassels of wool, the remains of its withered inflorescence; the variety, with narrower leaves and more rigid habit,

[1] The Arabs use this species (the colocynth) as a purgative. A fruit is split into halves, the seeds scooped out, and the two cavities filled with milk; after allowing it to stand for some time, the liquid, which has absorbed some of the active principle of the plant, is drunk off. I refer my readers for further valuable information of this nature to an article in the *British Medical Journal* of April 11, 1885, by my friend and companion, Dr. Gordon Hull. I trust he will forgive me for correcting an error into which I unfortunately led him. The plant which he speaks of "with short succulent jointed segments" as being very common and used for sore eyes is not Zygophyllum but *Anabasis* (*Salsola*) *articulata.*

occurred later on. Acacia Seyal was a revelation of spinousness whose branches even the camel can only nibble with care. It is a low flat-topped bush, often only 4 or 5 feet high, but with a trunk of considerable thickness.

A Matthiola, probably *M. arabica Boiss.*, occurred, and a large cabbage-leaved sticky Hyoscyamus, *H. muticus Linn.*, with showy yellow and purple veined flowers, was pointed out to me as the "Sekkaran" which the Arabs are said to inhale in their narghilis as an intoxicant.

The pretty little woolly Reaumuria, with its densely imbricated leaves, was, after much searching, found in blow at last. A wiry, nearly leafless Deverra was in full flower and seed, with a strong but not unpleasant smell of fennel.

The marked characteristics of these desert plants soon become familiar, They have usually a whitened appearance, which was perhaps somewhat heightened at the season of my visit. This is due to woolliness, or scaliness, or some other colouring integument, and is frequently accompanied by heavy odours, succulent or glaucous foliage. Spines, prickles, hooked or clinging hairs are also characteristic, and the whole plant is not unfrequently found to be steeped in a strong viscid exudation. Noteworthy instances of the above peculiarities will be given farther on.

Of the Sinaitic mountains, no part was as yet visible ; we were however gradually rising above sea-level, and with the cooler atmosphere there was a steady increase also in the quantity of vegetation. A very fragrant bushy Artemisia, *A. santolina Linn.*, had become frequent, and is subsequently one of the most characteristic plants of the flat wâdies.

In Wâdy Sudr *Cleome arabica Linn.*, *Pennisetum dichotomun Del.*, and *Elionurus hirsutus Vahl.* were secured in good condition, except the latter grass, which is so closely eaten by camels that it is hard to obtain good specimens.

Anabasis articulata Forsk. is a prevalent low-sized species ; its dried twigs are always topped by a few scales, the remains of the floral envelopes. These are occasionally a showy red or claret colour, and give a brilliant effect, sometimes equalling that of red heather at a distance. It is perhaps the commonest species throughout Sinai ; *Gymnocarpum fruticosus Forsk.*, however, is nearly as abundant. The Anabasis, whose slenderer twigs are, I believe, all lost and withered at this season, accumulates round its roots blown hillocks of sand a couple of feet high, favourite hiding places for lizards, and burrowing ground for ants and the smaller rodents. The Bedouins called this plant "Erimth."

The vegetation is scattered in tufts amongst the sand and gravel ; except in the occasionally moistened wâdy beds these tufts are usually isolated and often far apart.

On the 13th, at about 350 feet above sea-level, we entered a bed of chalk intermixed with white marls strewed with chert, fossils, and selenite. We reached Ghurundel by moonlight. Tamarisks and palms (*Tamarix nilotica Pall.*, *Phœnix dactylifera Linn.*) form here a pleasant grove ; Zilla, Nitraria, and most of the species above mentioned, are plentiful.

At Wâdy Ghurundel ("Elim")[1] I obtained some fresh species of birds. Of these *Saxicola isabellina Rupp* (Menetries' Wheatear) was several times seen and shot. The "Persian lark" (*Certhilauda alaudipes Desf.*) and the striolated bunting (*Emberiza striolata Licht.*) were obtained, only single specimens being as yet seen and secured of each. Ravens and willow-wrens tenanted this wâdy.

The first large quadruped's tracks were pointed out by the Arabs; they exclaimed "dhaba"—that is to say, "hyæna."

Another lizard, *Agama ruderata Riv.*, and a skink, *Sphænops capistratus Wagl.*, were captured here. The latter I found on kicking to pieces an ant-hill, the home of a species of Camponotus, *C. pubescens*. This lizard was afterwards very common throughout Sinai to the Dead Sea. He was easy to catch, and his comical habit of standing at bay with his tail cocked and his disproportionately large jaws wide open was instructive; no doubt it terrified troops of smaller foes. Like most true natives of the desert he was sand-coloured, though the tail has some dull blackish rings. Another lizard, *Eremias guttata*, was most difficult to catch; by pelting him with handfuls of sand, which confuses and stops his movements for an instant, combined with a sudden rush, it may be done.

The rock here is a white cretaceous limestone. The bed of the wâdy is cut deeply into marly deposits, leaving sheer mud-banks sometimes 8 feet high. The bed of this periodic stream was now perfectly dry. From the appearance of these deposits, and those in other places, Professor Hull considered there was evidence of a much greater rainfall in recent times.

On the tamarisk branches a curious buff-coloured chrysalis-like appendage was frequently observed. It was about the consistency of tough paper half an inch long, but more brittle, and proved to be the egg case of a species of Mantis. A large black beetle, *Prionotheca coronata Oliv.*, was the only large insect found in Wâdy Ghurundel.

Several plants were here first met with; the most conspicuous were a shrubby mignionette, *Ochradenus baccatus Del.*, thenceforward characteristic of the lower desert wâdies, and sometimes, where protected by acacia trees from camels, 6 or 8 feet high.

Here or nearer to Wâdy Useit I noticed for the first time a second species of acacia, *A. tortilis Hayne*, less spiny and usually larger and more upright than *A. Seyal L.* I met only these two acacias in the peninsula, but I found a third and much finer one (*A. læta R. Br.*) at the south end of the Dead Sea. *A. nilotica Del.* also occurs in Sinai. *A. tortilis* is commoner in the Arabah than elsewhere.

Other species were—*Cucumis prophetarum Linn.*, *Polycarpæa fragilis Del.*, *P. postrata Dcne.*, *Zygophyllum album Linn.*, *Fagonia cretica Linn.*,

[1] This wâdy must not be confounded with others of the same name in Sinai and Edom. A notable instance of confusion occurs in the ninth chapter of the English translation of Laborde's "Arabia Petræa," 1836, where the translator quotes several pages of description of the present wâdy from Burckhardt, to illustrate Laborde's short and correct mention of Wâdy Ghurundel near Petra.

var. *arabica*, *Lithospermum callosum Linn.*, *Cressa cretica Linn.*, *Euphorbia cornuta Pers.*, *Juncus maritimus Linn.*, β *arabicus*, *Typha angustata B. & C.*, *Cynodon dactylon Pers.*, *Phragmites communis Linn.*, var. *gigantea*. This latter species, which reaches a height of 10 or 12 feet with its erect plume of florescence, is a truly handsome grass. It appears to have frequently done duty for *Arundo Donax L.* in Sinai.

Many withered Chenopods occurred here, the identifiable species being *Suæda vermiculata Forsk.*, *Atriplex leucoclada Boiss.*, *A. halimus Linn.*, *Anabasis setifera Moq.*, and *A.* (*Salsola*) *articulata Forsk.* At Wâdy Useit occurred a little grove of date palms, some of them at least 40 feet high. There is only one other species, the doum palm (*Hyphæne thebaica Del.*), in Sinai. It occurs near Akaba and at Tor.

From about Wâdy Saal small burrows, from the size of a small rabbit-hole to the little perforation of a species of ant, *Camponotus compressa Fab.*, become numerous. These belong chiefly to species of Acomys, Gerbillus and Psammomys, but it was some time before I succeeded in capturing any of these animals. On several occasions I saw individuals of the Gerbille genus of sand-rats. These animals usually burrowed in the sand-hills accumulated about the stumps of anabasis and tamarisk ; their abundance here was as nothing compared with their numbers in the Wâdy Arabah later on. Jerboas were not seen in Sinai.

At night in the dinner tent our lights usually attract a few nocturnal insects, which I capture from time to time.

A hornet, *Vespa orientalis Linn.*, is the only insect frequently to be seen in the day-time. Nature rests herself in the desert almost as thoroughly as in an Arctic winter ; in the latter case she sleeps during an excessive cold, in the former she exhausts her strength during an extreme heat. Nevertheless many late flowering plants still occasionally hold their petals, and it will not be many days ere we gather the first harbingers of spring. Possibly these latter should be called hybernal. A few species, as *Cleome arabica Linn.*, are in their prime at present for examination, being in full flower and fruit. This Cleome is one of the most viscid plants met with, taking many weeks to dry, and never shaking off the adhering sand. It has small deep purple flowers and longish pods.

A black snake, probably *Zamenis atrovirens Shaw*, var. *carbonarius*, was killed here, but I was informed it was last seen with the cook. Whether it subsequently passed under examination in the dinner tent I cannot say, but I never succeeded in identifying it.

Desert larks representing three genera have been obtained ; one of these, Certhilauda, has been already mentioned. Other two, *Ammomanes deserti Licht.*, and *Alauda isabellina Bonap.*, were also shot. The latter is one of the most frequently met with of the true inhabitants of the desert. The Persian lark (*Certhilauda desertorum Rupt.*), a bird about the size of our song-thrush, has a low sweet song, uttered while on the ground, and not much stronger than or unlike our robin's winter warble. A large and handsome black and white chat (*Saxicola monacha Temn.*) was shot in Wâdy Humr. Tracks of gazelles were here first observed.

At Wâdy Humr we are crossing beds of a highly coloured red sandstone, which has replaced the white and black weathered limestone. The black and white chats are more conspicuous amongst these rocks; when at rest on a chalky surface dotted with fragments of chert these birds are not quickly seen. The desert larks are, however, the most securely assimilated to the soil. The females of some chats (*e.g.*, *S. monacha*) are more protectively coloured than the males.

The sandstone which we are now traversing is the regular inscription rock of the desert, on which the Bedouins of all ages have delighted to air their calligraphy, and not unfrequently impose upon travellers with their rude tribe-marks.

Our direction is mainly south-east, and steadily rising. At the head of Wâdy Humr, about 1,300 feet above the sea-level, we obtained our first view of the Sinaitic mountains. Jebel Serbal stood out, grand and rugged, straight ahead of us, looking about one-half of his real distance from us, so excessively clear was the atmosphere.

Leyssera capillifolia D.C. was gathered here for the first time, and the favourite camel grass, *Elionurus* (*Cœlorachis*) *hirsuta Vahl.*, was gathered in flower.

Having left Wâdy Humr, and crossed Sarbut el Jemel at a height of about 1,700 feet above sea-level, we came out on a wide sandy plain, Debbet er Ramleh, lying about 1,700 to 1,850 feet above sea-level. This is the largest expanse of sand in Sinai, and covers about thirty square miles. Some very interesting species were gathered here. The two species of Polycarpæa already mentioned, with the Cleome, abound.

Seetzenia orientalis Dcne., *Glinus lotoides Linn.* (not in flower), *Monsonia nivea Dcne.*, *Pancratium Sickembergeri A. & S.*, *Danthonia Forskahlii Linn.*, *Aristida plumosa Linn.*, and *A. obtusa Del.* These were all obtained in flower, and the white and perfect Pancratium was at its best. It is a lovely flower, and I secured many bulbs here and elsewhere. No leaves were yet in sight, but in some cases the petals had fallen, and the seed pod was filling, showing that the leaves are certainly not synanthous, though appearing soon after the flowers. Plants of this species now growing with me do not exhibit the remarkable twisting described as characterising their leaves. On this Pancratium, which was first discovered by Sickemberger near Cairo, some interesting remarks will be found in Barbey's "Herborisations" already mentioned.[1]

The Aristidæ, small glaucous grasses with long feathery awns, are amongst the prettiest of desert forms.

At a lower level near this, *Lycium europæum Linn.* was plentiful, and in full flower. It is visited by a small copper butterfly, the first of its family met with, which is poorly represented in this dry region. Formicidæ and Acridiidæ (ants and locusts) are perhaps the most abundant insects.

In Wâdy Nusb several fresh species occurred. Unrecognisable fragments awoke my regrets at the season selected from time to time.

[1] "Herborisations au Levant," par C. and W. Barbey (Lausanne, G. Bridel, 1882).

The following were determined :—*Morettia canescens Boiss.*, *Astragalus sieberii D.C.*, *A. trigonus? D.C.*, *Crotalaria ægyptiaca*, *Bth.*, and *Convolvulus lanatus Vahl.*

These Astragals were quite withered, and simply well-rooted bunches of strong sharp spines, 2 to 3 inches long, set closely round a stumpy stem ; the spines being the hardened woody mid-rib of the pinnate leaves. The only evidence of their past condition lay in the slight cicatrices in the spines marking the points of attachment of the fallen leaf-pinnæ. Of the convolvulus, a handsome, erect, shrubby, felted species, with good-sized reddish-purple petals, I obtained a couple of flowers.

Desert partridges were first heard here, but not yet obtained. Chats and larks appeared to be pairing. A shrike, *Lanius fallax Finsch.*, was first seen and shot. Afterwards this became a familiar species. The "desert blackstart," *Cercomela melanura Temn.*, another very characteristic and prevalent bird of Sinai, was also first met with and obtained here. The chats were *Saxicola leucopygia Brehm.*, and Menetries' wheatear already mentioned. The trumpeter bullfinch, *Erythrospiza githaginea Licht.*, was shot here for me by Dr. Hull, who, as well as Mr. Reginald Laurence, brought me specimens from time to time.

In Wâdy Nusb there is a well, and quite a goodly show of acacias, chiefly of the species *A. tortilis Hayne*, which was in flower sometimes, and usually in leaf. The leaf segments of this species are larger and fewer in number than in *A. Seyal L.*, the pods are twisted, and the tree attains a greater size. When old it is less and less spiny, while the reverse seems to be the case in *A. Seyal*.

In this wâdy I gathered *Malva rotundifolia Linn.* and *Amarantus sylvestris Desf.* by the well, both probably of human origin. The former is cooked and eaten by the Bedouins. *Lycium europæum* has flowers either white or pinkish-purple. Other species met here first were—*Dœmia cordata Br.*, *Echiochilon fruticosum Desf.*, *Lavandula coronopifolia Poir.*, *Crozophora obliqua Vahl.* (a perennial form of *C. verbascifolia Juss.?*), and *Zizyphus spina-christi W.* The latter was not native, and occurred in a miserable little enclosure by a Bedouin's hut at the well. It was less thorny than the native species afterwards gathered, and the fruit somewhat larger, but Mr. Oliver refers it to the same plant, no doubt slightly altered and improved by a rough system of cultivation.

As we are gradually increasing our elevation amongst the wâdies derived from the precipitous escarpment of the Tîh plateau (4,000 to 5,000 feet), so there are more remains of last summer's vegetation—later in flowering perhaps, and less scorched than the same species below.

Soon after leaving Wâdy Nusb we entered on plutonic formations, a red porphyritic granite, which was thenceforth to accompany us upwards over a large extent of country. The increased quantity of acacias since we left the limestone, and especially on the granite, is noteworthy. Perhaps its ferocious spines require an admixture of silicon.

A locust and a cricket were taken in semi-torpid condition. Scorpions similarly harmless, have been caught from time to time.

A larger species of lizard, with a handsome blue throat and pectoral, was captured, *Agama sinaitica Heyden.* The bright colour was all below, and was no reproach upon the perfect assimilation of its upper parts with the desert sandy hues. This lizard hid himself amongst stones, and it was with difficulty I dislodged him from a hole which he filled with his body and fortified with his distended and savage little jaws.

Having crossed a high ridge of granite, Ras Suwig, at about 2,400 feet above sea-level, from whence Jebel Serbal looked magnificent, we descended into a wâdy which yielded several new plants. *Pancratium Sickembergeri A.* & *C.* was found in flower here also. A small bulb, apparently an Allium, was brought to me by some Bedouins, perhaps *A. sinaiticum Boiss.* It is growing now under Mr. Burbidge's care at the College Botanic Gardens, but has not yet flowered. These two bulbs and a Uropetalum (*U. erythræum Debb.*) are, I believe, the only ones which support life in this desert. A few others occur, but at sufficient heights, usually very considerable, to bring them into a different zone of plant life.

At the height of 2,200 to 2,400 feet above sea-level the following species appeared :—*Iphiona juniperifolia Coss.*, *Sonchus spinosus Del.*, and a very fetid species, *Ruta tuberculata Forsk.*, was here first obtained with its yellow flowers.

Major Kitchener brought me branches here of the first Capparis I had seen, *C. galeata Fresen.*

Lichens of two species at least occurred, one on the bark of acacia, and the other on sandstone.

In Wâdy Khamileh desert partridges, *Caccabis Heyi Temn.*, were frequent, and some were shot. Two desert plants occurred in some quantity, *Lotononis Leobordea Linn.*, and *Pulicaria undulata D.C*

CHAPTER III.

Wady Lebweh to Mount Sinai.

Still ascending gradually, up Wâdy Lebweh, from 2,500 to 3,500 feet, many interesting Sinai plants were gathered. Most of these are true desert species, which reach about thus far, but they are mixed with others of an intermediate elevation about corresponding to the Mediterranean flora. From here come *Glaucium arabicum Fres.*, *Caylusea canescens St. Hil.*, *Cleome trinervia Fres.*, *Fagonia myriacantha Boiss.*, *Tribulus terrestris Linn.*, *Peganum harmala Linn.*, *Neurada procumbens Linn.*, *Santolina fragrantissima Forsk.*, *Artemisia herba-alba Asso.*, et var. *laxiflora Sieb.*, *Anarrhinum pubescens Fres.*, *Trichodesma africana R. Br.*, *Heliotropium undulatum Vahl.*, *Gomphocarpus sinaicus Boiss.*, *Ballota undulata Fres.*, *Teucrium polium Linn.*, β. *sinaicum*, *Stachys affinis Fres.*, *Primula boveana Dcne.*, *Acanthodium spicatum Del.*, *Forskahlea tenacissima Linn.*, *Andrachne aspera Spr.*, *Asphodelus fistulosus Linn.* and others, the specimens too bad

to name. The labiates in the above group are characteristic of the middle and upper zones of Sinai.

On the summit of Zibb el Baheir, at 3,890 feet, a point which all travellers should climb for the sake of the really splendid view, *Gypsophil rokejeka Del.*, *Helianthemum Lippii Pers.*, *Iphiona montana*, and a Poa, *P. sinaica St.* (*?*), were gathered. A Psoralea occurs here also, not found in a recognisable state. It may have been *P. plicata Del.*

Of the plants just enumerated several are peculiar to Sinai. Others, believed endemic, I found later on Mount Hor in Edom.

In addition to the above it is to be remembered that the majority of the earlier species met with occur throughout. The chief failures are *Cleome arabica Linn.* and Salsolaceæ (except Anabasis), which are mostly confined to the lower plain. The variable but always pretty little Fagonia is continually arresting the attention by some new deviation. Sometimes it is glabrous, sometimes viscid, sometimes very leafy, at others a bunch of twigs or thorns, trailing or sub-erect, while the flowers vary much in size. In one form or another it is a very widespread desert form which has received a number of segregational names. The abnormal *Neurada procumbens*, with its curious flat prickly-edged capsule nearly an inch in diameter, was in good condition, but scarce. *Gomphocarpus* was in full flower and fruit; like *Dœmia cordata*, already gathered, and now common, it has a sticky, staining, milky juice, very poisonous according to the Bedouins. These two Asclepiads, and about five others occurring in Sinai, point to the tropical element in its flora. *Artemisia herba-alba Asso.*, in several well-marked forms, is henceforth one of the most abundant and highly aromatic plants.

From Zibb el Baheir, which I ascended with Dr. Hull on Sunday, the 16th November, we had a grand view of the whole mass of Jebel Musa (Mount Sinai) and Jebel Catharine on the south-east, and of Serbal nearer us to the southward. Down Wâdy Berah the foregoing labiates and composites were prevalent in many places. A little further on is a continuous grove of retem bushes, the first bit of almost luxuriant though limited vegetation I had seen except close to the wells. This wâdy, like most others, is flat, and about half a mile wide, with a slight channel wandering from side to side, and marked by a line of grey-green growth, no doubt fresh and delightful after the rain which is almost due.

Hares have been seen once or twice. I saw one here first, a very long-eared and long-legged whitey-grey animal with a little body (*Lepus sinaiticus Hemp.* and *Ehr.*). He was a perfect fiend to travel; nothing living except a bird ever got out of my sight so quickly. The little southern owl hovered around our camp one or two evenings. A splendid pair of griffon vultures afforded a nearer view here than elsewhere. The Egyptian species is more approachable. Crows and ravens (*C. corax* and *C. umbrinus*) are also tamer in this less frequently traversed route. Indeed the large birds generally seem fully aware of the harmless nature of Cairo powder. The lark, *Alauda isabellina Bon.*, is the commonest of the smaller species. White wagtails, *Motacilla alba Linn.*, are also very

frequent, continually hopping about our tents and camels quite fearless of man.

The two lizards of the *Agama* genus already mentioned, especially the smaller (*A. ruderata*), are common. I kept some of these alive as far as to Constantinople three months later, but the cold weather there killed the last of them.

The mountains are of red porphyry intersected by numerous dykes of trap. This is surely the proper country for a geologist to come to; no annoying mantles of soil or vegetation conceal the rock masses; all is bare and clear, and a good view reveals as much as a shire full of well-borings and railway cuttings.

The temperature has become much colder, falling to within five or six degrees of freezing point at night, and we find it difficult to keep warm enough in our tents.

Acacia bushes become rare or absent at about 3,500 feet elevation. Acacias may be said to mark the vertical limits of the desert flora, as the date palm does its horizontal geographical distribution. The desert plants which exceed this range upwards will be found to be mostly Mesopotamian or Syrian species, and not confined to that belt which extends from the Cape Verdes to Scinde.

In Wâdy es Sheikh some large tamarisk bushes (*T. nilotica*) occur, about 15 feet in height. This plant has about the same upward limit as that of the acacia. On these tamarisks were two butterflies, one of which, *Pyrameis cardui Linn.*, was obtained; the other appeared to be a fritillary (Argynnys).

The Wâdy es Sheikh is of considerable length, upwards of twenty miles, running east at first, and then south to the base of the Jebel Musa group. It lies high, 3,000 to 4,000 feet, and the chief plants in it are Artemisiæ, Santolina, and Zilla, except on the northern sides at the base of whatever shelter from the sun there may be. Here most of the plants lately enumerated occur still. Some appear which are less common, as *Zygophyllum album Linn.*, *Nitraria tridentata Desf.*, *Alhagi Maurorum D.C.*, *Crozophora obliqua Vahl.*, *Pancratium Sickembergeri A.* and *S.*, and the labiates and composites of Wâdies Lebweh and Berah. *Gomphocarpus sinaicus Boiss.* often arrests attention, shedding its beautifully silky tufts of hair, ready to whisk the attached seeds about the peninsular plains with every breath that blows. *Phagnalon nitidum Fres.*, *Anabasis setifera Moq.*, and *Atriplex leucoclada Boiss.*, occurred in Wâdy Solaf, so that the Salsolaceæ only require favourable circumstances to appear in the upper country. In Wâdy Solaf, a smaller arm of the Wâdy Sheikh, remarkable sections of marl deposits, many feet in thickness, were examined. These no doubt represent the bed of a large lake of the recent period cut through by streams which once contained a steady supply. Examination of evidence of this nature will form an interesting portion of Professor Hull's results.

At Jebel Watayeh a fine granitic pass connects the eastern and southern prolongation of Wâdy Sheikh. The summit of this I estimated at 4,150 feet above sea-level. On it I obtained *Dianthus Sinaicus Boiss.*, *Buffonia*

multiceps Dcne., *Arenaria graveolens Schreb.*, *Cratægus sinaica Boiss.*, *Cotyledon umbilicus ? Linn.*, *Poa sinaica, ? St.*, and most of the species of Zibb el Baheir. The withered Psoralea (sp. ?) occurred also. The first two of these are peculiar to Sinai. There was a well-marked difference here in the floras of the north and south side of the peak, the Cotyledon and grass occurring only on the north side, while the Artemisiæ, Anabasis, and other ubiquitous desert species prevailed on the other or southern face.

Laurence caught for me on this crag a locust (*Tryxalis unguiculata Linn.*), resembling exactly the withered straw-coloured twigs and sand in which he lived.

Further towards Wâdy Suweiriyeh grow *Pyrethrum santalinoides D.C.*, *Centaurea eryngoides Lam.*, *Alkanna orientalis Boiss.*, *Lithospermum tenuiflorum Linn.*, *Suæda monoica Forsk.*, *Piptatherum multiflorum Beauv*, and of rarer kinds, *Echinops glaberrimus D.C.*, *Iphiona montana Vahl.*, *I. juniperifolia Coss. Anarrhinum pubescens Fres.*, *Primula Boveana Dcne.*, and *Teucrium sinaicum Boiss.*

It was interesting to notice a form of *Cotyledon umbilicus Linn.*, the only apparently native British dicotyledon I met with in Sinai. It has been gathered here previously by Bové, according to Decaisne, who recorded it under the present name. Unfortunately my specimens are in too bad a condition to determine, consisting only of young leaves and a withered stem. The root was tuberous. It is plentiful on Mount Hor, and is not unlikely to be identical with the new form Dr. Schweinfurth gathered on mountains between the Red Sea and the Nile Valley.[1]

Retama Retem Forsk. is very common in these high-lying wâdies. It quite takes the place of acacia, and was now laden with its one-seeded capsules. It is very pretty and sweet when in flower. The varieties of *Anabasis articulata*, whose bracts wither a showy red and rich claret colour, are common here. This species is quite abnormal at this season, having shed all its more slender twigs, and having more the habit of a Zygophyllum. It was not till I reached Wâdy Arabah that it occurred in its natural form.

Lepidopterous insects were more numerous in these cooler stations, chiefly attracted by the tent lights at night. Of the earlier desert plants Reaumaria and Gymnocarpum are still abundant.

Several grasses, Cucurbitaceæ and Zygophyllaceæ belong to lower districts, but Fagonia ranges everywhere so far. *Ruta tuberculata*, with its disgusting smell, is still to be met with.

At Ain Zuweireyeh, where we camped for the ascent of Mount Sinai, there is a poor little garden containing pomegranates, palms, and nubk (Zizyphus), apricots, and mallow. Gomphocarpus is abundant about this well. It is one of the most remarkable species in Sinai.

I made the ascent of Jebel Musa and Jebel Catharine on the 20th November. On the way to the convent of Mount Sinai occurred *Centaurea scoparia Sieb.*, *Celsia parviflora Dcne.*, and *Alkanna orientalis Boiss.* At the convent garden, where we dismissed our camels, are cypress, orange,

[1] Barbey, *op. cit.*, p. 134.

figs, olives, dates, and vines in cultivation. These I only saw over the garden wall, for the delay in the convent was irksome since the whole thing was to be done in a day. On the garden gate were suspended several dead Egyptian vultures, which surprised me, as I thought the bird was too much valued as a scavenger to be destroyed. Gomphocarpus occurred again a little above the convent which stands at 5,024 feet above sea-level. The following were first met with here :—*Asperula sinaica Dcne.*, *Pulicaria crispa Forsk.*, *Verbascum sinaiticum Bth.*, *Plantago arabica Boiss.*, *Phlomis aurea Dcne.*, *Nepeta septem-crenata Ehr.*, *Mentha lavandulacea Boiss.*, *Teucrium polium L.*, var. *sinaicum.*, *Origanum maru Linn.*, *β sinaicum*, *Ficus pseudosycomorus Dcne.*, and *Adiantum capillus-veneris Linn.* A single tree stands near the spring, but I unfortunately lost my leaves of it. It was, I believe, *Salix safsaf Forsk.*

At this height, about 5,500 feet, a couple of palms (across the valley), *Phœnix dactylifera Linn.*, and a tall cypress, *Cupressus sempervirens Linn.*, var. *pyramidalis*, occur. The latter, which is not native, occurs a little higher in a conspicuous place familiar to all travellers.

Cotyledon umbilicus Linn., *Arenaria graveolens Schreb.*, *Scirpus holoschœnus Linn.*, *Peganum harmala Linn.*, *Echinops glaberrimus D.C.*, *Acanthodium spicatum Sieb.*, and several mosses were gathered on the ascent. On such occasions as these the Bedouins made wild gestures and howls as I escaped from them into gullies and up cliffs. One reason of this I found to be their horror of boots, which they think most dangerous to the climber. At the second pyramid, that of Cephren, at Cairo, where I stole a march and reached the summit alone, the Bedouins who pursued me made frantic efforts to deprive me of my boots ere the descent began. I need hardly say I valued the skin of my feet too highly to obey.

In spite of the Bedouins I followed the bent of my own botanical inclinations. The mosses were the result of a detour from the beaten track to a less open gully looking north. On or close to the summit, 7,320 feet, were *Cratægus sinaica Boiss.*, *Artemisia herba-alba Asso.*, *Verbascum sinaiticum Bth.*, *Ruta tuberculata Forsk.*, *Peganum harmala Linn.*, *Arenaria graveolens Schreb.*, *Buffonia multiceps Dcne.*, *Poa sp.* (*P. sinaitica ?*), and *Ephedra alte C. A. Mey*, and others not recognisable. The ascent to the summit from the convent occupied about two hours.

The most striking feature in the aspect of the flora of the upper parts of Jebel Musa, from the convent upwards, is the prevalence of the Labiate and Scrophulariaceous families. Several fresh species had appeared, some of these peculiar to Sinai, and others met before were very abundant here. As these orders increase, the Compositæ, abundant at intermediate heights, diminish towards the upper zone. The fern and the mosses illustrate the cooler atmosphere of the elevated region, though their immediate existence depends on the unfailing springs of water. Having left our party here I descended rapidly to the convent of Deir el Arbain, about 1,700 feet below, in the bottom of the gorge between Jebel Musa and Catharine. With a nimble Arab as guide we did this in half-an-hour. At the convent I was transferred to another native. There was barely

daylight left in which to accomplish Jebel Catharine. I had arranged that my camel should be in readiness here to bring me back to camp at Ain Zuweiriyeh at night. A quarter of an hour after my arrival the faithful Khalîl appeared, and I started at once, 1.30 P.M., for the summit.

At the monastery, or near it, were *Bupleurum linearifolium D.C.*, var. *Schimperianum Boiss.*, *Carum sp. ?*, *Pterocephalus sanctus Dcne.*, *Veronica syriaca J. & S.* (introduced), and *Celsia* and *Anarrhinum* already mentioned. *Salix safsaf Forsk.* occurs here. During the ascent most of the labiates and the hawthorn of Mount Sinai, were met with ; but this mountain wore a far more wintry aspect than its lower neighbour. A lack of running water renders it at all seasons more barren. At the spring Mayan esh Shunnâr, "fountain of the partridge," I made another little gathering of mosses, in all from the two mountains ten species, *i.e.*: *Grimmia apocarpa Linn.*, *G. leucophæa Grev.*, *Gymnostomum rupestre Schwæg.*, *G. verticillatum*, *Tortula inermis Mont.*, *Eucalypta vulgaris Hedw.*, *Entosthodon templetoni Schwæg.*, *Bryum turbinatum Hedw.*, *Hypnum velutinum Linn.*, *H. ruscifolium Neck.* These are all British species with the exception of *Tortula inermis*, which occurs also on the Morocco mountain at 8,000 to 10,000 feet, and no doubt elsewhere round the Mediterranean. One only in the list, *Gymnostomum rupestre*, is sub-alpine in Great Britain. There are two other mosses also common British species recorded from Mount Sinai by Decaisne.

The remainder of the ascent was over barren and perfectly unvegetated rock. Nevertheless, within a few hundred feet of the summit I was rewarded by finding the exquisite little *Colchicum Steveni ? Kth.*, of a delicate pale lilac colour, sometimes white. It had no leaves, and bore either one, two, or three flowers on the scape ; usually only one. It occurred again on the extreme summit, and I secured several bulbs. *Colchicum Steveni* was gathered afterwards on Mount Hor, where the flowers were very decidedly smaller. The Jebel Catharine plant may prove to be specifically distinct. This Colchicum has been recorded from the Palestine coast as far south as Joppa.

On the summit there was hardly any life. I obtained *Buffonia multiceps Dcne.*, *Arenaria graveolens Sch.*, *Herniaria sp.? (H. hemistemon?)*, *Gypsophila hirsuta Led.*, and *G. alpina Boiss.*, and fragments of an Astragal, perhaps *A. echinus D.C.* On the ascent I gathered the root and leaves of a sedge looking like *C. distans Linn.*

The summit of Jebel Catharine, 8,536 feet, the highest in the peninsula, was very cold, barely above freezing point. Its mean annual temperature would perhaps about correspond with that of Edinburgh, while Jebel Musa would be nearer that of London. It is a solid hump of syenite with a lower shoulder joining it to a similar prominence about half a mile away. The view was magnificent, including the whole coast-line of Sinai from Suez to Akaba, except the portion intercepted by the Umm Shaumer range to the south, whose summit almost equals that of Jebel Catharine. Jebel Musa looks a mere trifle, one of a fierce sea of red pointed and serrated peaks and ridges.

The summit was reached at 3.15, left at 4, and the convent of Deir el Arbain regained at 5. A long camel ride through a wild gorge by moonlight brought a memorable day to a close.

In the gorge I heard a deep clear strange note which my Bedouin called "hōadoō." It seemed to proceed from an owl, and may have been Bubo ascalephus, the Egyptian eagle owl, but, much as my curiosity was aroused, there was no means of gratifying it.

With the exception of a couple of chats (*Saxicola leucopygia Br.* and *S. lugens Licht.*), and the Egyptian vulture, no birds were seen. A single coney (*Hyrax Syriacus H. & Ehr.*) showed himself for a few seconds on the summit of Jebel Musa.

CHAPTER IV.

Mount Sinai to Akaba.

Our journeyings from Mount Sinai lay east of north to Akaba, skirting and occasionally crossing corners of the Tîh plateau.

Hares were occasionally seen of the little long-eared Sinaitic kind, and gazelle tracks were very numerous in Wâdy Zelegah (Zolakah). The lizards already mentioned are plentiful in this wâdy, and several geckos were captured, which proved to be of two species. A snake, *Zamenis ventrimaculatus*, was safely lodged in my spirit cylinder.

Wâdy Zelegah is a noble valley plain about half a mile wide for upwards of twenty miles, bounded by precipitous cliffs and mountains. Several detours were made into the Tîh cliffs on the left of our line of march. The chief plants were—*Glaucium arabicum Fres.*, *Capparis galeata Fres.*, *Cleome arabica Linn.*, *Ruta tuberculata Forsk.*, *Odontospermum graveolens S. Bip.*, *Artemisia herba-alba Asso.*, and vars., *Sonchus spinosus Forsk.*, *Verbascum sinaiticum Bth.*, and for the first time *Moricandia dumosa Boiss.*, *Capparis spinosa Linn.*, *Iphiona scabra Del.*, and *Imperata cylindrica Beauv.*

Frequent bags of fossils were obtained *in situ* for the assistance of the Geological Survey.

In birds, the white wagtail and the little cock-tailed wren-like warbler (Drymœca) are the most frequent. Desert larks and shrikes also occur at scattered intervals. A very small warbler, *Sylvia nana*, was shot amongst tamarisk bushes. The song of the Drymœca is quite wren-like, but less piercing.

The flora is that of the western side; Tamarix, Caylusea, Retama, Ochradenus, Zilla, Santolina, Artemisia, Ærua, Ballota, Stachys, Lavandula, Anabasis, of species already mentioned, predominate. Several of the Mount Sinai groups of labiates are for the present missing, as also are two or three of the Iphiona group of composites. The larger Capparis is very frequent, growing on the most arid rocks above the wâdy flats, where nothing else, except perhaps *Lavandula coronopifolia Poir.*, appears able to

exist. *Capparis galeata* is sometimes an erect shrub 6 or 8 feet high, of a bright green, differing from the slender trailing blue-foliaged species, C. spinosa, which often grows with it. The former is now in fruit, the latter barren.

Camels delight in the larger grasses, in Ochradenus, Zilla, Nitraria, Anabasis, and tamarisks.

At the head of Wâdy Elain, a grove of tamarisks was plentifully indued with an excrescence or exudation of greyish-white pillules of a viscid substance, with a faint taste of nucatine. This is the so-called "manna of Sinai," which is, I believe, more plentifully obtained from *Alhagi maurorum D.C.* This gum is said to be due to the puncture of a small insect.

Life became more plentiful. Three butterflies were observed: a pale blue, a sulphur-yellow with brown under wings, and an admiral. Hornets and a long-bodied insect darted about in a broiling sun. I obtained all these except the sulphur-yellow butterfly.

In plants *Suæda monoica Fres.*, and for the first time the rare *Linaria macilenta Dcne.* This spring species was in flower, but the fugaceous corolla falls at the slightest touch. *Cleome droserifolia Del.* was also here first obtained. A spring supported a stream that moistened the soil for about a mile ere it gradually died a natural death. It led us the way into an unexpected and magnificent fissure in the red granite, the Wâdy Elain. For five or six miles the gorge passes between sheer cliffs of this richly coloured rock, with a height varying from 500 to 800 feet, and from 10 to 50 yards wide. It is in some ways the most impressive natural feature I have ever beheld. The floor is hard and level, and as the sun rarely hits the base of the cleft, many plants remained here in a fresher condition than elsewhere, and some new varieties were found. I will mention the less common species procured in this remarkable sîk, or cleft, which has rarely been visited: *Moricandia sinaica Boiss, M. dumosa Boiss, Cleome droserifolia Del., Capparis galeata Fres., Abutilon fruticosum G. & P., Zygophyllum coccineum Linn., Tephrosia purpurea Pers., Pulicaria (Francœuria) crispa Forsk., Blumea (Erigeron) Bovei D.C., Iphiona scabra Del., Sonchus (Microrhynchus) nudicaulis Linn., Scrophularia deserti Del., Linaria macilenta Dcne., Lycium arabicum Schw., Hyoscyamus aureus Linn., H. muticum Linn., Ballota Schimperiana Bth., Teucrium sinaicum Boiss., Origanum maru Linn., β Sinaicum Boiss., Atriplex leucoclada Boiss., Typha angustata B. & C., Cyperus lævigatus Linn., et var. junciformis Panicum turgidum Forsk., Pennisetum dichotomum Del., Imperata cylindrica Beauv.*, and forms of *Reseda pruinosa Del., Fagonia cretica L.*, as well as other indeterminable remains. Several of the above are peculiar to Sinai, and some mentioned here and elsewhere are now first included in its flora.

It was with misgivings we camped in this wâdy. Had a "seil" like the Rev. F. Holland's memorable one at Feiran visited us, we would have assuredly had a bad time. But the expected rain did not yet arrive.

While we were encamped here we received notice of the arrival of

visitors for whom our ever courteous chief prepared coffee. The party, consisting of engineers, Colonel Colvile, I believe, and others, passed us at speed on the opposite side of the narrow valley without a greeting. Suspecting that this impetuous haste, and absence of that courtesy for which Englishmen on their travels are so justly famous, arose from ulterior motives, Professor Hull summoned a council of war, which resulted in despatching our able conductor, Bernard Heilpern, with orders to secure our entitled priority to the Akaba Sheikh's camels and services. Bernard passed the fugitives in the night, and was entirely successful.

It was long ere we got clear of this ever widening, slowly rising Wâdy el Tihyeh, which wound through granite hills and lifted us out of Wâdy Elain. Our height above sea-level varied between 2,500 and 3,000 feet. Acacias are numerous, chiefly *A. seyal.* This small tree, when not too flat-topped, as is commonly the case, has at a little distance a close resemblance to our hawthorn, with its gnarled and twisted stem and rugged bark. The granite hills, usually capped with a stratum of sandstone, are barren in the extreme. Dæmia cordata and Tephrosia purpurea are the only noteworthy species.

Hey's sand partridges are frequent, and good to eat. All seen as yet are of the one species. They rarely fly until almost walked on, trusting for escape to their close resemblance in colour to the shingle and rocks they inhabit. Until they run, which they do with rapidity, they would be most difficult to observe. Nevertheless they often betray themselves by their sharp cry of alarm. The Bedouin then, swift, stealthy, and bare-footed, gets easily amongst them, for they seem more alarmed by a noise than by the human figure. The Bedouin flint lock is, however, slow and dignified in its performance, and usually affords abundant time for escape from its uncertain discharge.

Rock-pigeons and martins (*Columba Schimperi Bp.*, *Cotyle rupestris Scop.*) were seen in Wâdy Elain.

All about the caper is frequent. The Arabs eat the ripe red fruit and seeds. I tasted it but did not continue to eat it. The skin is like mustard, and the seeds like black pepper.

In a marshy place at the head of Wâdy Elain, amongst palms and tamarisks, Typha angustata was 12 to 14 feet high ; Erigeron Bovei 6 or 7 feet high, well branched and with many flowers, and Phragmites gigantea was fully 15 feet high.

The pricklier plants, Acacias, Acanthodium, Gymnocarpum, &c., are commoner in a general sense on the granite and sandstone than on the limestone.

In a very dirty well, Bir es Sowrah, near the base of Jebel Aradeh, *Chara hispida Linn.* occurred, and with it *Juncus maritimus Lam.*, *β arabicus*, palms and capers.

On the summit of Jebel Aradeh there was no vegetation, and in the limestone now lying above the sandstone numerous cretaceous fossils were obtained. A single white butterfly (Pieris sp.) was the only living thing. I estimated the height of this mountain 3,400 feet. It is about 1,300 feet

above the plain, and forms a most conspicuous object. Like others, except those of granite, in this region, it is crumbling away and turning to dust on all sides. The beds of chalk and flints are much disintegrated, while all the outer surface of the lower limestone is on the move.

The only plants were Gymnocarpum, Reaumuria, Capparis, Acanthodium, and Lavandula of the usual kinds.

We are here in a little known and unsurveyed region. Consequently there is abundant work for the engineering section of our party. Very few travellers have passed this way since Laborde's time, and I was sorely disappointed to find on the tableland we were now entering there was little living vegetation, although abundant withered evidence of a sparse but varied flora.

This tableland is called here Jebel Hirteh, and is, properly speaking, a portion of the Tîh plateau which becomes indefinite at its south-eastern border. A fine oval plain, Wâdy Hessih, about three to five miles broad, literally abounded in lizards, and here I killed another Zamenis, a sand-coloured snake about 4 feet long. A large-headed Arachnid (Sparacis sp.) is also very abundant, and seems to form food for some of the numerous chats and larks. Small flocks of sparrows, *Passer hispaniolensis Temn.*, occurred here, while there is usually a raven or a vulture in sight.

This wâdy, now clad with withered scraps, is a favourite pasturing place later on for the Bedouins' flocks. I gathered here *Tribulus alatus D.C.*, *Anastatica hierochuntina Linn.*, *Zygophyllum dumosum Boiss.*, *Lotus lanuginosus Linn.*, *Ifloga spicata Forsk.*, *Filago prostrata Parlat.*, *Linaria floribunda Boiss.*, *Verbascum sinuatum Linn.*, *Heliotropium undulatum Vahl.*, *Micromeria myrtifolia Boiss.*, *Plantago ovata Forsk.*, *Panicum Teneriffæ R. Br.*, and *Aristida cærulescens Desf.* These had not been previously met with. Other interesting species not recently seen were *Farsetia ægyptiaca Turr.*, *Reseda pruinosa Turr.*, *Polycarpæa prostrata Dcne.*, *Helianthemum Lippii Pers.*, *Atractylis flava Desf.*, *Zygophyllum album Linn.*, and others of commoner sorts.

In these depressions of the plateau, where water and soil are of more frequent occurrence, there is an abundance of greyish scrub, short, thin and interrupted, and composed chiefly of Zygophyllum dumosum, Anabasis (Salsola), Articulata, Ephedra alte and Atriplices, Nitraria, Zilla, Retem, and sometimes tamarisk.

Sonchus nudicaulis Linn., *Dæmia cordata Br.*, Gomphocarpus and Lindenbergia still occur.

I endeavoured to obtain the Arabic names of the commoner species, and to confirm them from the mouths of two or more Bedouins. These names so obtained rarely agree with those I find quoted in Forskahl, Boissier, Tristram, and others. It is probable that every tribe has its own plant-names.

An Arab informs me that "boothum," a tree growing on Jebel Serbal and nowhere else, with a stony fruit, is used, its leaves being boiled as a cure for rheumatism, an infirmity to which the Arabs are martyrs. I suspect the plant to be *Cratægus aronia*. Also that safsaf (*Salix safsaf Forsk.* or

Populus euphratica Linn.) is the wood in demand for charcoal to colour their gunpowder. This they obtain in the valley between Jebel Musa and Jebel Catharine as well as on the latter mountain. The proportions of their gunpowder are—one part sulphur, four parts saltpetre, and a little charcoal to colour.

Anastatica hierochuntina Linn., "Kaf Maryam," or Rose of Jericho, was first seen here, and becomes common to Akaba and northwards to the Ghôr es Safieh. Ephedra alte is the most characteristic and abundant species. Acacias are almost absent. We are on a limestone tableland with occasional outcrops of sandstone. Once on such an outcrop a single shrub of Acacia seyal occurred. In exposed situations these acacia bushes, formed like a table with its single leg much nearer one side than the middle, point with their overhanging part in the direction of the prevailing wind. On reaching the granite pass into Akaba the acacias again become abundant, but their absence above may be partly explained by the exposed situation.

Camels eat even the milky asclepiads, as Dæmia, which is said to be highly poisonous. *Heliotropium arbainense Fres.* was first met with by the Haj route from Cairo to Akaba, which we were now close to.

Those two especially nauseous species, Peganum and Ruta, are very frequent. The smell of the former is like that of our hound's tongue, the latter reminded me of some kind of wood-bug, which I collected in an evil moment in the scaffolding of the Milan Cathedral. *Cleome droserifolia Del.* smells like a fox. Other species here are *Malva rotundifolia Linn.*, *Linaria macilenta Dcne.*, *Deverra tortuosa Gœrtn.*, and *Ærua javanica Juss.*

On the 29th November we descended a magnificent gorge between granite and limestone by the Haj road to Akaba, which takes its name (Akaba, "steep descent") from this entrance. The ever varying peeps of the gorgeously blue gulf of Akaba shining in an intense sunlight were a most refreshing change from the desert. The rich purple colouring of the lofty mountains of Midian formed a noble background.

CHAPTER V.

Akaba.

At Akaba we remained from November 29th to December 8th. I increased my collection here considerably. The flora displayed several fresh species. Bird life was more plentiful, and a large collection of shells was made on the beach. These, consisting of upwards of 200 species, including those from Suez, I have had determined by Mr. G. B. Sowerby, and amongst them are many which do not appear to have been admitted as inhabitants of the Red Sea.

Akaba, even at this season, was oppressively hot. A swim in the sea, or rather a crawl amongst the coral reefs, about 3 feet below the surface, was delightful. Farther out sharks abound.

The straggling Arab village lies at the south-eastern corner of the

plain which forms at once the head of the gulf and the southern end of the Wâdy Araba. This is the narrowest part of the wâdy, being not more than five or six miles across.

A very fine tree of *Acacia tortilis Hayne* stands close by. On the coast are many clumps of the date palm, interspersed with a very few trees of the doum palm (*Hyphæne thebaica Del.*), already noticed here by Mr. Redhead. The doum palm, a native of tropical Africa, Nubia, and Abyssinia, finds its northern limit at Akaba.

In the enclosures here I noticed nubk (Zizyphus), henna (Lawsonia), palms, tamarinds (*Tamarindus indica L.*), pudding pipe (*Cassia fistula?*), figs, and several kinds of gourds. Most esculents were still invisible or in a seedling state.

There is but one boat at Akaba. Laurence and I succeeded in hiring this with a native fisherman, with two Arabs, nets and lines. There were many flying fish (Exocœtus) about. We first rowed across the corner of the gulf and landed on the sandy beach, where the two Arabs landed and with a circular casting net captured some small fish ("Akadi" and "Sahadan") for bait. With these and some loose stones, about a pound weight each, we rowed out a few miles. The bait fish, broken in three, is affixed to the hook and one of these stones is hitched to the line a little above with a slip-knot. On reaching the bottom a couple of violent jerks dismiss the sinker and let the line swing free. We caught fish rapidly, "hedjib," at Suez called "jar," "gamar" (a species of Chætodon ?), and one splendid red fish they called "bossiah," without scales, and very good to eat. We also hooked a shark, "Zitani," about 5 feet long, who amused us for a time and then carried off the line.

Before dismissing our Towarah Bedouins I had endeavoured to pump them of what little information they possessed about the feral inhabitants of Sinai. They knew of leopards on 'Serbal and Umm Shaumer; wolves in Wâdy Lebweh and neighbourhood; hyænas, ibexes, gazelles, hares, jerboas, rats, and mice made up their total. Their sheep they say were imported from Arabia; they have a few donkeys and camels; their goats are a distinct breed which they are especially proud of. Five kinds of snakes they admitted, all of which were poisonous! The one I caught in Wâdy Zelegah, *Zamenis ventrimaculatus*, attains a full size of 5 or 6 feet. These remarks I set down to be taken for what they are worth.

Dr. Hull captured a handsome little snake here, and handed it over to me; it proved to be *Zamenis elegantissimus*, and is now in the British Museum.

The birds obtained at Akaba were—*Cercomela melanura Temn.*, *Cyanecula cœrulescens Pall.*, *Argya squamiceps Rupp.*, *Motacilla alba Linn.*, *M. flava Linn.*, *Pycnonotus xanthopygus Hemp. & Ehr.*, *Lanius fallax Finsch.*, *Passer hispaniolensis Temn.*, *Ægialitis asiatica Pall.*, *Tringoides hypoleucos Linn.*, and several larks and chats already mentioned. Ravens, crows, martins, rock-pigeons and the little gull, *Larus minutus L.*, were also observed. Vultures and English swallows were frequently to be seen, the former usually of the Egyptian species.

Not many identifiable plants occurred here which had not been previously seen. These are—*Cassia acutifolia D.C.*, *C. obovata Coll.*, *Onobrychis Ptolemaica Del.*, *Tephrosia apollinea Del.*, *Artemisia monosperma Del.*, *Statice pruinosa Linn.*, *Salvia deserti Dcne.*, *Boerhavia plumbaginea Cav.*, *Calligonum comosum L'Her.*, *Atriplex crystallina Ehr.*, and *Andropogon foveolatus Del.* A few other less common species may also be mentioned :—*Lotononis Leobordea Linn.*, *Tephrosia purpurea Pers.*, *Sonchus spinosus D.C.*, *Cucumis prophetarum Linn.*, *Linaria macilenta Dcne.*, *Trichodesma africanum*, *R. Br.*, *Heliotropium arbainense Fres.* Forskahlea, Andrachne, Panicum, and others. Along the shore in some places is a close growth of *Nitraria tridentata*, *Atriplex leucoclada Boiss.*, *A. halimus Linn.*, *Juncus maritimus Linn.*, var. *arabica* and others. *Cressa cretica* is a characteristic species along the shore on the saline flats.

Gathering shells where such an abundance of, to me, novel forms occurred was enthusiastically pursued. I shall not here deal with this subject in any detail, but merely mention the principal genera met with. These were mostly univalves, bivalves being scarcer in species, and infinitely fewer in individuals. Great numbers of opercula of a Turbo, pretty polished little hemispherical bodies retaining the spiral lines of structure, pens of calamaries, and the delicate vitreous wingshells of pteropods occurred, as well as a large variety of fragments of coral. Conus, Cerithium, Strombus, Cypræa, Mitra, Triton amongst univalves ; Arca, Pectunculus, Tridacna, Chama, and Venus amongst bivalves, were the best represented genera. Drift shells are rarely disturbed, the tide being apparently not above a foot in range at Akaba.

CHAPTER VI.

Akaba to Mount Hor.

At Akaba we have left the Sinaitic peninsula ; from here we turned northwards up the Wâdy Arabah. Happily we had occasion henceforth to travel more slowly, in order to give the surveying party time to keep pace with us. I was thus enabled to make wide detours east and west out of the Arabah, but my inclination lay chiefly eastwards into the precipitous borderland of Edom.

In the Wâdy Arabah I saw gazelles several times ; Wâdy Menaiyeh, on the west, may be mentioned as a good hunting ground. These graceful animals seemed more at home on the west side, abounding on the Judæan wilderness, and all over the Tîh plateau. Ibexes, on the other hand, appeared more frequently on the higher mountain declivities of Edom to the east. Hyænas, judging from their tracks, must be plentiful ; once I had a good view of one, and quickened his lolloping pace with a fusilade from revolver and fowling-piece. At El Taba, on the east side, about twenty-five miles north of Akaba, a fruitful, marshy place with a deep

spring, I saw perfectly fresh tracks of "nimr," or leopard, and subsequently, at Ain Abuweirideh, Laurence came on fresh remains of some beast which had served apparently a meal for these animals. A hare, the Sinaitic species, was killed a few miles north of Akaba. A much larger hare, *L. ægyptiacus*, was seen several times on the eastern declivity of the Tîh. My frequent failure in bringing down game and specimens I attributed partly to my having been unable to land English cartridges or powder in Egypt, and being dependent on very worthless and very expensive ones procured in Cairo. I would recommend all sporting travellers to run any risk in smuggling sooner than let this occur to them.

The Wâdy Arabah abounds in rodents. These animals appear to be chiefly nocturnal in their habits, and are very seldom seen. The number of holes and the abundance of their tracks is truly astonishing. Their colours are usually in strict harmony with the desert, for the Wâdy Arabah is some ten to thirteen miles across, and more correctly called a desert than most parts of Sinai. Jerboas were seen a few times, and Gerbilles, of which I trapped one, appear to be most numerous.

Birds have increased in numbers and variety. From El Taba northwards, about twenty-five miles from Akaba, a grove of acacias (chiefly *A. tortilis Hayne*), and a little Zizyphus, stretches about ten miles along the eastern edge of the Arabah. A smaller grove occurs nearer Akaba at the mouth of Wâdy el Ithm, where I first met with the "hopping-thrush." In the larger grove the handsome *Loranthus acaciæ Zucc.* abounds.

Several times I endeavoured to get a shot at a small bird here which uttered a sharp little note, new to me, but I was unsuccessful. Mr. Armstrong, who was with me that day, and is well skilled in Palestine birds, recognised it, having also seen the bird, as the little Sunbird, *Cinnyris Oseæ*. Subsequently, when I reached the Ghôr, I obtained several specimens and recognised the note at once. This species has not been detected south of the Ghôr, where it was first made known, like the hopping-thrush, by Canon Tristram.

The Sunbird probably follows the Loranthus, to whose flowers it appears attached. Its long bill reaches the base of the tubular flower, searching for honey, and it thus probably secures their cross-fertilization. One was shot in the Ghôr in the act of doing so, its bill being covered with the pollen of the Loranthus.[1]

The hopping-thrush (*Argya Squamiceps*) is a remarkably weak flier, hardly leaving the ground except in tremendous jumps, which cause his large fan-shaped tail to overbalance and almost overturn him as he makes a pause. He is a most grotesque bird; nevertheless the mournful cries of one when I had shot his mate impressed me with a different feeling.

Palestine bulbuls were occasionally seen here also. Hooded chats,

[1] Since writing the above I find that Burton has seen the Sunbird, almost certainly this species, about five degrees from this southwards, in Midian. "Land of Midian," vol. ii.

Persian larks, and desert larks were frequent, and large flocks of sparrows assembled about us in several places.

The floor of the wâdy is sometimes alive with geckos, lizards, and ants, as well as numbers of long-winged males of a Persian species of white ant, *Hoeotermes vagans Hag.*, not yet able to fly, over which the hopping-thrushes fall into inconceivable excitement.

The first bee I met with was captured here, and small beetles are often sacrificed to the good of science. I spare the reader the enumeration of their scientific names, which will be given fully at the close.

At El Tabah occurred a greensward of *Cynodon dactylon Linn.* In or near the grove already spoken of were *Cocculas Leœba, D.C.*, *Fagonia myriacantha Boiss.*, *Scrophularia deserti Del.*, *Loranthus acaciæ Zucc.*, *Salsola fœtida Forsk.*, *Eragrostis cynosuroides Retz.*, and commoner sorts. In the open sandier wâdy, *Glaucium arabicum Fres. Gypsophila Rokejeka Del.*, *Monsonia nivea Dene.*, *Microrhynchus nudicaulis, Linn.*, *Iphiona scabra Del.*, *Citrullus colocynthis, Schr.*, *Cleome droserifolia Del.*, Cucumis, Pancratium, Danthonia, Trichodesma, Andrachne, Forskahlea, Anabasis, and Tamarisk form almost the whole vegetation.

In some places the wâdy is spanned by rolling wastes of sand dunes 10 to 12 feet high. These appear to have been formed around the bases of clumps of tamarisk and anabasis, which is here very tall, 6 to 8 feet high or more.

Ochradenus baccatus is very abundant, often overtopping the acacias by whose protection from camels it thrives. Lycium europæum and one or two grasses escape being cropped in the same manner, and grow to an unwonted size.

On the 7th December a long day's climbing with Laurence brought us to the head of Wâdy Ghurundel in Edom. This was at a height of about 1,800 feet above sea-level, six miles east from the Arabah. The scenery on the way was superb. Huge blocks of red sandstone, 800 to 1,000 feet high, towered above us, sometimes sheer and tottering in broken masses from the main cliffs behind. We passed a spring with a few date-palms, and a little higher a large bulb with broad leaves (*Urginea scilla Steinh ?*) first appeared and soon became abundant. It was not yet in flower. *Dianthus multipunctatus Ser.*, *Eryngium sp.*, *Odontospermum pygmæus Cav.*, *Cotula cinerea Del.*, *Solanum nigrum Linn.* (var. *moschatum*), *Satureia cuneifolia Ten.*, *forma*, *Boerhavea verticillata Desf.*, *Ficus sycamorus Linn.*, *Traganum nudatum Del.*, *Aristida ciliata Desf.*, appeared for the first time. The Odontospermum (*Astericus*), which occurred at a considerable height, was a little woody button representing the hardened flower head, which was usually solitary and close to the ground. This plant, like Anastatica, has hygrometric properties, and has been put forward by Michon as the true Rose of Jericho of the travellers of the middle ages. *Anastatica hierochuntina* will not, however, be readily deprived of its claims.

Besides the above, which were all gathered farther on, some plants of more limited range occurred: *Moricandia dumosa Boiss.*, *Abutilon*

fruticosum G. & P., *Varthamia montana Vahl.*, *Iphiona scabra Del.*, *Centaurea scoparia Sieb.*, *Iphiona juniperifolia Coss.*, *Ballota undulata Fres.*, and others already met with.

Judging from the abundance of its bur-like carpels lying in the dry watercourses, Calligonum comosum is the most abundant shrub ; it is now in a withered condition. Several other bulbous species which occurred here are as yet undetermined. A stiff scramble brought me back to the Arabah by a more northern valley. Amongst land shells, helices of four species were gathered in Wâdy Ghurundel.

CHAPTER VII.

Petra and Mount Hor ; Wâdies Haroun (Abou Kosheibeh), and Musa ; Jebel Abou Kosheibeh.

The last valley has shown us some characteristic Sinaitic species extending their range north-eastwards across the great valley of the Arabah. Several more will appear in the group of localities now to be considered. Were I to hazard a suggestion here, it would be that these plants, formerly considered peculiar to Sinai, have had their origin more eastwards, and have spread, like many other Arabian plants, in a westerly direction.

Owing to the greater moisture found in the upper part of some of the valleys of the Edomitic escarpment, there is a greater variety of species and a sprinkling of ferns, mosses, and lichens. These are mostly more northern forms, spreading southwards at high levels.

We are now entering a district which Canon Tristram has somewhat liberally included in Palestine. The flora has its own peculiar plants as well as a large proportion of southern or Sinaitic species, and thus it adds many to the Palestine flora. I will first speak of the wâdies, and then of Mount Hor and Petra. The latter places, I think, have not been botanised previously to my visit, and are visited only with difficulty and expense, owing to the cupidity and lawlessness of the sturdy beggars or Bedouins who dwell there.

Irby and Mangles, Commanders in the Royal Navy, travelling in 1816–1820, were the first Europeans who visited these regions in modern times. Further on I will quote a few remarks from their most interesting volume, since I find no other allusions to the vegetation of the ancient capital of the Nabathæans.

The following plants not previously seen were gathered in Wâdy Abou Kosheibeh (Wâdy Haroun), and on the Jebel or peaked mountain which stands in a commanding position across its head :—*Fumaria micrantha Lag.*, *Erodium hirtum Forsk.*, *Poterium verrucosum ? Ehr.*, *Anvillæa Garcini D.C.*, *Carthamus glauca M.B.*, *C. lanatus Linn.*, *G. arabica*, *J. & S. Podonosma syriaca Lab.*, *Nerium Oleander Linn.*, *Pentatropus spiralis*, *Forsk.*, *Boucerosia*, *sp. nov.?*, *Salvia ægyptiaca Linn.*, *Juniperus phœnicea*,

Linn., *Bellevallia flexuosa Boiss.*, *Asparagus aphyllus Linn.*, *Asphodelus ramosus Linn.*, *Pennisetum cenchroides Rich.*, *Cheilanthes odora Sw.*, and *Notholæna lanuginsa*, *Desf.* Of these, Globularia, Podonosma, Boucerosia, Juniperus, and the two ferns were obtained above the wâdy amongst the cliffs of Jebel Abou Kosheibeh, from about 3,000 to 3,500 feet above sea-level.

The Globularia is a pretty compact little shrub, with blue heads of flowers and small entire leaves; the species here is the Arabian form, *G. arabica*, perhaps hardly distinct from *G. alypum L.* of the Mediterranean.

The two Asclepiads, Boucerosia and Pentatropis, are both frequent; the latter is probably *P. spiralis*, but as it was not in flower, Mr. Oliver would not speak positively. It occurred again at the Ghôr, trailing over acacias.

The Boucerosia may be *B. aucheriana Dcne.*, an insufficiently described plant from Muscat in South-East Arabia, which is also the nearest known habitat for the Pentratropis.

On Jebel Abou Kosheibeh were also gathered—*Moricandia dumosa Boiss.*, *Gomphocarpus sinaiticus Boiss.*, *Helianthenum Lippii Pers.*, *Cotyledon umbilicus ? Linn.*, *Linaria macilenta Dcne.*, *Verbascum sinuatum Linn.*, *Phlomis aurea Dcne.*, and *Boerhavea verticillata*, *Poir.*

Many desert species of Reaumuria, Ochradenus, Zygophyllum, Morettia, Zilla, Acacia, Retama, Ruta, Ifloga, Lycium, Trichodesma, Forskahlea, Asphodelus, Anabasis, Ephedra, and grasses already mentioned, occur also in Wâdy Haroun, the name which the Bedouins invariably give this wâdy.

It will thus be seen that there is no appreciable break as yet in the continuity of the Sinaitic flora as we travel up the Wâdy Arabah, but an increase of species from eastwards and northwards.

The Wâdy Haroun is at first wide and arid, but after a few miles vegetation rapidly increases with moister conditions. The flanks of the Edomitic limestone plateau are better supplied with moisture than the Sinaitic granite. Banks by the edge of this valley at a moderate elevation, 1,000 to 1,500 feet above sea-level, had a sparse coating of mosses and other cryptogams. The mosses were chiefly of the Tortula genus, of which five species were collected. Side by side with these grow the desert species above mentioned in great luxuriance. Demia cordata, for instance, climbed to a height of 10 or 12 feet in retem bushes; the support being as well developed as the climbing plant. In the open desert, Dæmia, as mentioned by Mr. Redhead, lies sprawling on the ground, its several stems sometimes closely twisted into a thong towards their extremity, so that all circulation is stopped, and the young shoots are strangled. This is probably due to changed conditions having deprived it of its normal support, which it rarely finds in the desert, and even seems there to have lost the power of utilising. For I have seen it strangling itself side by side with bushes of the very sort which here gave it so much assistance. The desert plant was more plentifully milky, and

we have here seen at work agencies which are giving rise to a modified form, in better harmony with its environment.

From the summit of Jebel Abou Kosheibeh, which I climbed with Dr. Hull, an unusual sight was observed: a stream, small in size, but containing a good body of water, rushing down the cliffs about half a mile to the south-eastward. I could distinguish with my spy-glass the growth of arundos and oleanders that fringed its banks, but unfortunately there was no time to examine it more closely. Running water was once seen before on Jebel Musa.

The juniper is a well-shaped bush or small tree, with a trunk sometimes a foot in diameter. It gives a considerable area of shade with its dark close foliage. A large specimen occurs immediately below the summit, and I could see it on all the highlands around, even at the summit of Mount Hor, which looked but a little distance off.

On the 10th of December we made the ascent of Mount Hor, returning to camp the same day by Petra. Our camp was fixed near the mouth of Wâdy Haroun. Although having made an early start (4 A.M.), the visit was necessarily a very hurried one. While waiting for a cloud to lift from the summit of Mount Hor for the benefit of the theodolite party, I had time, however, to make a good gathering of the bulbous plants, now just showing their leaves, with which the upper part of this mountain abounds.

The view from Mount Hor, whose height I estimated by aneroid at 4,400 feet, is a disappointing one, and bears no sort of comparison with those from the Sinai peaks. This defect is due to the adjoining high and monotonous tableland of Edom, which obscures one side of the horizon. This tableland averages perhaps 5,000 feet in height in the eastern neighbourhood of Mount Hor, and is composed of the unvarying and unpicturesque white cretaceous limestone. It lowers northwards, and I afterwards reached its outer edge. In some places it has quite a forest of vegetation.

With regard to Mount Hor, Irby and Mangles write: "Much juniper grows on the mountain, almost to the very summit, and many flowering plants, which we had not observed elsewhere; most of them are thorny and some are very beautiful."

As Mount Sinai is a mountain of labiates, so Mount Hor is a mountain of bulbs. The number of species and individuals of these orders respectively vividly coloured my impression of the botanical features of each of these sacred peaks. At the same time many of the Mount Sinai plants, labiates included, occur on Mount Hor. On Mount Sinai I procured bulbs of a single species, a total of three perhaps occurring. On Mount Hor I gathered at least twenty sorts.

In the upper 1,000 feet of Mount Hor a considerable accession of Mediterranean or more northern forms appear. A more interesting group is that of plants which have been considered absolutely peculiar to Sinai. Both these lists, which I here append, would no doubt be swelled by observations at a more seasonable visit.

Northern species ranging south to Mount Hor :—

Dianthus multipunctatus Ser.
?Geranium tuberosum Linn.
Pistacia palæstina Boiss.
Rhamnus punctata Boiss., var., barren (sp. nov. ?).
Paronychia argentea Lam.
Bryonia syriaca Boiss.
Galium canum Reg.
Scrophularia heterophylla Willd.
Sternbergia macrantha Gay.
Colchicum montanum Linn.
C. Steveni Kunth. (also on Mount Sinai).
Urginea scilla Sternh.
Bellevalia flexuosa Boiss.
Asphodelus fistulosa Linn.
Asparagus aphyllus Linn.
A. acutifolius Linn.
Arum, sp.?
Carex stenophylla Vahl.

No doubt many of these occur on the Edomitic plateau, whose botany is practically unknown.

Sinaitic species discovered on Mount Hor :—

Moricandia dumosa Boiss.
Pterocephalus sanctus Dcne.
Echinops glaberrinus D.C.
Varthamia montana Vahl.
Celsia parviflora Dcne.
Origanum maru Linn., β sinaicum.
Phlomis aurea Dcne.
Teucrium sinaicum Boiss.

These have been considered peculiar to Sinai. They may now be included in the flora of Palestine.

A consideration of the latter group is especially interesting when considering the ancestral origin of the more local or endemic portion of the Sinai flora ; and it also gives us a slight clue to the probable nature of the flora of the little known region east and south-east of Mount Hor. Judging from an appendix of species of plants collected by Burton's expedition to "The Land of Midian," the flora of the upper regions of Sinai is more nearly allied to that of Edom to the north of east, than to that of Midian in the south-east. The Gulf of Akaba has formed a barrier in the latter case.

Of the bulbous species, here as elsewhere, I can only enumerate a portion. The bulk of those gathered were in leaf, and were brought home to Mr. Burbidge, of the College Botanic Gardens in Dublin, under whose care many are now growing, but have not flowered.

The arboreal vegetation of Mount Hor was confined to the summit, and consisted of a bladder-senna, *Colutea aleppica Lam.*, a turpentine tree, *Pistacia palæstina Boiss.*, and a juniper, *Juniperus phœnicea Linn.* Each of these was about 10 or 12 feet high. The Rhamnus already mentioned was very much stunted.

At Petra two new species were discovered, which will be described in another place. One was a Galium allied to *G. jungermanniodes Boiss.*, and pronounced new by Mons. Boissier. It is a low straggling matted species, with the habit of our Asperula cynanchica. It occurred in the "Sîk." The other new species was a Daphne, an erect shrub 6 or 7 feet high, with long linear leaves, reddish-brown berries, and small cream-coloured flowers. The fibre is remarkably stringy and tough. The Daphne is allied to *D. acuminata* and *D. mucronata*, but differs materially from both these species. It occurred, in flower and fruit, on the slopes of Mount Hor, about a mile from Petra, and again at intervals lower down. The Boucerosia, already mentioned as being perhaps an undescribed species, was found on Mount Hor in flower in several places.

Many unrecognisable fragments of Umbellifers, scrophulariaceous plants, grasses, and others were noticed at Petra, and the botany will yield a good harvest to any one arriving at a proper season, and with sufficient leisure. My time in Petra was somewhat under an hour!

The following plants not previously met with, were gathered at Petra and Mount Hor:—*Diplotaxis pendula D.C. Ononis vaginalis Vahl., Rubia peregrina Linn., Inula viscosa Desf., Zollikoferia casinianæ Jaub., Thymelæa hirsuta Linn., Salsola rigida Pall., S. inermis Forsk., Nœa spinosissima Moq., Polygonum equisetiforme J. & S., Allium sinaiticum Boiss. Asplenium ceterach Linn., Andropogon hirtus Linn.*, in addition to those already mentioned as reaching here a southern limit, and the Abou Kosheibeh lants, which also, as a rule, occur on Mount Hor.

The majority of these additions occurred from about 3,000 feet to the summit. I extract a few notes from my journal on this subject.

At 3,000 feet Oleander and tamarisk cease, Scilla abundant; at 3,450 feet Thymelæa (Passerina) first occurs; at 3,750 feet numerous species occur, as Pterocephalus, Globularia, Onosma, Juniperus, Ceterach, Cheilanthes, Fagonia, Cotyledon, Capparis spinosa, Varthamia montana, Phlomis, Ononis, Deverra, Moricandia dumosa, Rhamnus as I ascend; at or near the summit (4,400 feet about) are Geranium, Colutea, Pistacia, Pennisetum cenchroides, Hyoscyamus aureus, Noæa, Poterium spinosum, Scilla, Malva, Carex, Ephedra, Zollikoferia, Echinops, Verbascum sinuatum, Origanum Ajuga tridactylites, Arum sp., Bryonia, Sternbergia, and Colchicum, of species already mentioned.

Of Wâdy Musa, in which Petra is situated, Irby and Mangles write: "Following this defile farther down, the river reappears, flowing with considerable rapidity. Though the water is plentiful, it is with difficulty that its course can be followed from the luxuriance of the shrubs that surround it obstructing every track. Besides the oleander, which is common to all the watercourses in the country, one may

recognise among the plants which choke this valley, some which are probably the descendants of those that adorned the gardens and supplied the market of the capital of Arabia: the carob, fig, mulberry, vine and pomegranate line the river side; *a very beautiful species of aloe* also grows in this valley, *bearing a flower of an orange hue shaded to scarlet;* in some instances it had upwards of one hundred blossoms in a bunch." Several of these were not observed by us. Of the aloe I can give no information.

At Petra, 2,900 feet above sea-level by my aneroid, many of these and others occurred; the most prominent were Phlomis, Ononis, Thymelæa, Rubia, Rhamnus, Pistacia, Inula, Sternbergia, Bellevallia, Rumex roseus, Verbascum sinaiticum, Ficus sycamorus, and a stunted pinnate-leaved shrub or small tree, perhaps a Fraxinus. The Ononis, very viscid, with pretty yellow and claret coloured veined flowers, was very abundant. So also was Thymelæa. Sternbergia (Colchicum) macrantha was glorious with flowers of golden yellow, as large as a lemon.

Few observations on animal life were obtained in this hurried visit, but these were all of interest.

Ibexes and gazelles were seen on Mount Hor, and a hare of the Egyptian variety fled from Wâdy Haroun at our approach. Another, seen at Petra, much lighter in colour, may have been the Nubian form.

When climbing Jebel Abou Kosheibeh, a clear loud flute-like whistle attracted my attention. The first few times I heard it I was fully persuaded it was a signal to warn those rascally Petra Bedouins that hated Christians were invading their domain. But I presently saw the whistle belonged to a bird, which proved to be Tristram's Grakle. This species, originally discovered by Tristram about the Dead Sea, has since been found in Sinai at Wâdy Feiran by Wyatt, who also met it at Petra. All the time we were on this mountain several of these birds kept flying around us, often displaying the orange spot on the wing as they hovered close by. Their flight is very graceful, sometimes hovering butterfly-like, sometimes swift and undulating in large curves like the chough. Grakles were seen afterwards a little above Petra, and a flock of a dozen or thereabouts circled round the summit of Mount Hor, disappearing and reappearing from the corners of the red sandstone cliffs, and giving notice of their presence with their melodious whistle. This is probably a favourite breeding place with these birds. It was not until I reached the Dead Sea that I obtained a specimen.

At Petra also occurred the Palestine bulbul, and the rich musical cry of the fantail raven, *Corvus affinis Rupp.*, was almost incessant while we were there. Nevertheless this bird hardly came nearer than two or three hundred yards, and would be difficult to obtain. By its note and by its size, and by its broad expanded tail seen on the wing, I was assured of the species on referring to Canon Tristram's work. This raven and the grakle are two of that author's characteristic birds of the Dead Sea basin.

Hey's sand-partridge, shrikes, and desert larks are also not unfrequent, the latter lower down towards the Arabah.

To Laurence's sharp sight I was indebted for two snakes, *Zamenis*

cliffordii Schleg. and *Rhyncocalamus melanocephalus Gunt.* The latter species was believed peculiar to the Jordan Valley, where it was found by Tristram, and forms as yet the single representative of the genus founded for it by Dr. Gunther. The former has not hitherto been found outside the African continent.

A centipede (Scolopendra) and a black millipede (Spirostreptus) four or five inches long, but fortunately torpid, were captured here. The latter seemed to be very common.

Wells, which I often searched with a net, yield, as a rule, no life except small leeches and the larvæ of gnats. Some handsome insects of the grasshopper and cricket sorts were captured from time to time.

Up to this very few mollusca have been collected. *Helix seetzeni Koch* and *H. candidissima Drap.* were found in one or two places in Sinai. The latter was again met with in Wâdy Ghurundel in Edom, where I found also *H. prophetarum Bourg.*, *H. filia Mouss.*, and the handsome species *H. spiriplana Oliv.* On Mount Hor this last was frequent, and another fine shell, *Bulimus carneus Pfr.*, was here first found. Most of these became commoner down to the Ghôr. At Petra, and in the Arabah, I collected also *Helix cæspitum Drap.*, a rare species. This scarcity of land shells is paralleled on the eastern side of the Gulf of Akaba in the land of Midian, where Captain Burton speaks of them as very rare, and mentions that he only met with two species in four months. In its natural history this little known country appears to be (judging from Captain Burton's work) almost identical with Sinai.

CHAPTER VIII.

Wâdy Haroun to the Dead Sea.

The mouth of Wâdy Haroun into the Arabah is somewhat more than halfway from Akaba to the Dead Sea. The watershed between the Dead Sea and the Gulf of Akaba is nearer to Akaba. We estimated its lowest point at 660 feet above sea-level. It lies on the west side of the Arabah. At the mouth of Wâdy Haroun the Arabah is at its widest, being about thirteen miles across. The total distance from Akaba to the Dead Sea is 112 miles.

My chief detour in this part of the Arabah was on the east side, up a long valley to the Edomitic plateau with Mr. Armstrong. On this occasion we returned to the Arabah by a more northern valley, Wâdy Ghuweir, which, from the numerous remains of encampments, tribe marks ("Wasum"), and the well-worn tracks, appeared to be a leading thoroughfare into the Shobek country.

In this wâdy are several springs, appearing, as is frequently the case, at the union of the sandstone and limestone formations. One of these springs supported a jungle of reeds with palms and some interesting

composite species of luxuriant growth. Tamarisks, acacias, and nubk trees (Zizyphus) were in some profusion, and on each of these three trees the handsome parasite, *Loranthus acaciæ Zucc.*, with its handsome red flowers, was a conspicuous ornament. It was seen only two or three times on the tamarisk, oftener on the nubk, but much more usually on the acacia. Clinging to the reeds was an Asclepiad, *Cynanchum acutum Linn.*, whose range is more Mediterranean than the others met with. Amongst them was the stately *Saccharum ægyptiacum W.* and a shrubby composite, *Pluchea dioscoridis D.C.*, reached a height of 15 feet. Its flowers were insignificant. A red-barked osier, *Salix acmophylla Boiss.*, and a poplar, *Populus euphratica Linn.*, which is perhaps the willow of Babylon, occurred along the margin of the short-lived stream. Other species collected were—*Erucaria aleppica Linn.*, *Tribulus terrestris Linn.*, *Ficus carica Linn.*, *Salsola tetragona Del.*, and others less noteworthy. A very fragrant savory, *Satureia cuneifolia Ten.*, and our early acquaintance the "sekkaran," *Hyoscyamus muticus Linn.*, occurred.

At the head of this valley *Juniperus phœnicea* was found to be the tree visible from the Arabah on the white chalky plateau of Edom, and growing abundantly. Burton found this tree luxuriant and abundant at considerable heights in Midian three degrees farther south.

In this wâdy I gathered maiden-hair fern, the first I had seen since leaving Jebel Musa. Caper (*Capparis spinosa*), *Lycium arabicum*, and *Boerhavia verticillata* also occurred. Bushes of nubk were sometimes canopied with this latter trailing plant, with its pretty panicles of blueish small flowers.

The Bedouins told me that with the juniper trees on Edom occur also "balût," *Quercus coccifera Linn.*, and "arour," a thorn with a small sweet fruit. This was, I believe, *Rhus oxyacanthoides Linn.*, which the above-mentioned traveller found abundantly in Midian. I met it subsequently in the Ghôr.

In Wâdy Ghuweir I captured the first Batrachian I met with, *Bufo viridis Linn.*; running water, the rarest and pleasantest of sights in these regions, was the source of this increased variety of life.

At the Arabah, abreast of the above valley, I examined some large bushes of *Calligonum comosum L. Her.*, a desolate, leafless, whitened; scrubby species which often grows in shifting sand. Its roots are beautifully adapted to secure its position. These are woody, springy, and tough, very different from the brittle branches, and about a quarter of an inch in diameter. Some of these are seven or eight yards in length, perhaps much more, and beset with knobs at intervals, which are serviceable in giving them a better grip. These excrescences may have been due to insects, for I afterwards noticed that this plant was much subject to galls; but whatever their origin, they served the purpose of the flukes of an anchor to hold the bush in a sea of shifting sand.

There appears to be a great variety of gall-producing insects in the desert. Almost every woody species is liable to knobs and swellings. One of the most curious of these appendages was that frequently attached

to the common Salsola—a shapely little spurred and coloured excrescence like a solidified flower of one of our commoner wild orchids.

A minute cruciferous annual, half an inch high, leafless and with a silicle which formed almost the entire plant, was so fragile that it failed to reach home. The silicle valves had separated, dehiscing from the base upwards, one at either side of the septum.

In this part of the Arabah *Pancratium Sickembergeri* was frequently gathered. At the spring of Ain Abou Weirideh, a little south of Wâdy Ghuweir, I obtained many old friends. Populus euphratica attains here good dimensions. No less than three running streams maintain a brief but productive existence across the sands. I gathered here *Prosopis stephaniana Willd.*, *Pulicaria arabica D.C.*, *Statice pruinosa Linn.*, *Artemisia monosperma, Del.*, *Suæda asphaltica Bois.*, *Salsola fetida Forsk.*, and many more.

Several bulbous species were obtained here. One of these which has flowered since my return has been determined by Mr. Baker, *Urginea undulata Desf.*

Further north, towards the Ghôr, I collected *Eremobium lineare Del.*, *Monsonia nivea Dcne.*, *Anastatica hierochuntina Linn.* ("Rose of Jericho"), *Astragalus Forskahlii Boiss.*, *A. acinaciferus Boiss.*, *Rhamnus sp. ?*, *Carthamus glaucus M.B.*, *Androcymbium palæstinum Baker*, *Allium Sinaiticum Boiss.*, *Aristida ciliata Desf.*, *A. plumosa Linn.*, *Panicum trugidum Forsk.*, with the usual desert species.

The most noticeable feature in the animal life in the northern half of the Arabah has been already mentioned. I allude to the extraordinary abundance of small holes and burrows in stone and gravelly sand. The riddled surface reminded me forcibly of the lemming haunts of Discovery Bay, in lat. 81° 45″ north, where, however, all were due to one species with the exception of those of a larger rodent, the stoat, who preyed upon the lemmings. One would expect to find a carnivorous rodent subsisting on the abundant supplies here also, but none such has been as yet discovered. The holes in Wâdy Arabah vary from small ant-holes and lizard cachès to those of rabbit-holes, and one or two fox-holes (?) were also observed. Tracks of various sizes also abound. Jerboas, porcupine mice, gerbilles, and sand-rats (Psammomys) are the groups represented, of which it is very difficult to secure specimens during a hurried march like ours. Canon Tristram, however, enumerates a considerable variety. One which I trapped here, *Gerbillus erythrurus Gr.*, was sand-coloured and the size of a large rat, and is now in the British Museum. It does not appear in Canon Tristram's work. This gerbille is a wide-spread desert form, from Candahar to Algiers. The holes of this species, and some others, are surrounded outside, besides being well supplied inside, with little heaps of chopped fragments of plants, leaves, seeds, and other remnants of vegetation. Ant-roads are also conspicuous, about an inch wide, and firmly and smoothly pressed down.

Porcupine quills and decomposed remains of hedge-hogs were several times picked up in the north end of the Arabah.

At Ain Abou Weirideh sub-fossil shells were obtained in marl deposits at about 1,400 feet above the level of the Dead Sea, or about 100 feet above sea-level. Two of these, *Melania tuberculata Mull.*, *Melanopsis Saulcyi Bourg.*, have been figured by Professor Hull at page 100 in his work already referred to. I gathered besides these *Melanpsis bucoinoidea Oliv.*, and *M. eremita Trist.* These are fluviatile or lacustrine species, and are all found still living round the Dead Sea in various streams and springs. The last-mentioned species is very rare, and I did not find it alive, but Canon Tristram discovered it at the south-western Ghôr. These marls, in the opinion of geologists, are remaining deposits of an ancient lake or inland sea, of which the Dead Sea is all that now exists. From where we now stood to near the source of the Jordan, about 225 miles northwards, must have been a continuous sheet of water in (geologically speaking) tolerably recent times.

Lower marls are very characteristic at an average level of 600 feet above the present level of the Dead Sea. I searched these marls for similar remains in many places, but always found them absolutely barren in records of the past, and very rarely inhabited by any existing life, vegetable or animal. Trunks of palms, floated to, and then embedded in these marls at the base of Jebel Usdum, form no exception; since these may have been drifted thither in times which are as yesterday compared with the "middle marls." The upper marls are fairly vegetated with the existing flora. The natural conclusion would be that the ancient sea, at first harbouring fresh-water inhabitants, became reduced by a long process of evaporation, or some other cause, to about a mean height between its present and its earliest level, and that it was already so salt that it was almost if not quite uninhabitable.

At this height, judging from the extent of the middle marls, the waters must have remained stationary for a very considerable period, while most of the upper marls became converted into the lower formation by a long process of denudation. From the latter elevation to the present the subsidence has no doubt been very recent, and is still continuing. The most recent deposits of the Dead Sea are of course perfectly barren, except of mixed drift, or where these have been converted into marshes or fertilised by the few small fresh-water streams.

But I anticipate in my anxiety to get down to the fertile Ghôr es Safieh.

At Ain Abou Weirideh a small flock of pintail grouse circled round the wells, but I failed to obtain a specimen. Subsequently I recognised the note and obtained the bird, *Pterocles senegalensis Linn.*, at Bir es Seba. Its call is very peculiar, recalling the strange utterance of the Manx Shearwater.

On the night of the 14th we were visited with a thunderstorm and a tremendous downpour of rain. Rain had also fallen on the 3rd December, the day we left Akaba; this was our total from Cairo to the Dead Sea. The thunder on the 14th was grand and continuous for about three-quarters of an hour. Lightning flashed at about every five seconds.

CHAPTER IX.

South end of the Dead Sea.

On the 16th of December we obtained our first view of the Dead Sea and descended to the plain at its southern extremity. The whole depression in which the Dead Sea lies, 1,300 feet below sea-level at its surface, is called the "Ghôr," or "Hollow." On the first night we camped in the Ghôr el Feifeh, and from the 17th to the 26th inclusive we were detained at the Ghôr es Safieh while waiting for means of transport from Jerusalem.

This enforced delay in so unique a locality was to me a most fortunate circumstance. Previous visitors do not appear to have obtained more than a hurried peep at the Ghôr es Safieh. The difficulties arise from the hostile character of the adjoining tribes of Arabs, who are constantly engaged in predatory warfare, the Ghôr es Safieh being very frequently the scene of their conflicts. Our imaginations were kept excited by continual reports and warnings of those terrible Kerak Sheikhs, Huwaytats, and others who were about to demolish us. I had also read and heard much of the impossibility of doing any good exploring work where an escort is always necessary, and where the Bedouins were bent on plundering unwary strangers. However, day after day I followed the bent of my inclinations, frequently alone, climbing the eastern hills, searching the jungles and marshes, and collecting birds and plants without ever receiving the smallest annoyance.

The Ghôr es Safieh, where we spent ten days, lies at the south-eastern end of the Dead Sea, about 1,250 feet below the level of the Mediterranean. It is watered by the Garahi river as the Feifeh is by the Tufileh, both descending from the eastern highlands. Between these two oases there is a strip of desert. Both these streams were well supplied with water during our visit, and I understood from the Arabs that the Garahi at least was unfailing. The latter is called also El Ahsi, Hessi, and Safi, and the Nahr el Hussein. Smith's Ancient Atlas calls it the Brook Zered. It is distributed into numerous smaller watercourses for purposes of irrigation by the cultivating Ghawarniheh Arabs, by whose tented village we were encamped. There is another smaller village, called, I believe, El Feifeh, of which we obtained a passing view.

The whole distance from the base of the sudden descent from the barren white marls into the plain is about ten miles to the Dead Sea. The Ghôr es Safieh is about three to four miles wide. The upper Ghôr of El Feifeh is, as I have said, cut off from the lower by a strip of desert, an unwatered patch of sand-dunes and Salsolaceæ. On the east the Ghôr is bounded by the highlands of Moab, and on the west by the briny, muddy, barren bed of the Tufileh. Steep marl banks, a couple of hundred feet high, enclose it on the south, while northwards it gradually becomes salter and swampier, with a diminishing vegetation to the lifeless margin of the Dead Sea.

On the Moab cliffs, as also on the Judæan to the west, the lower

declivities are flanked in many places with saline white marls to an upper limit of 650 feet. These marls are absolutely barren *in situ*, but they are fast being washed down by aqueous denudation, and thus purified they are scattered by irrigation over the Ghôr. A minute beetle, of the genus *Galbella*, was a slight exception to this barrenness, which is of course interrupted in the beds and by the margins of the occasional watercourses. This new species, whose description will subsequently be given, is most nearly allied to *G. beccari Gest* of Abyssinia.

The upper Ghôr is by no means so fertile as that watered by the larger and more northern stream. The latter issues with a south-westerly direction from a narrow cleft, or "sîk," in the red sandstone by which I penetrated for a few miles into that desolate country. The river is here confined to the base of the sharply cut cleft, and confers no fertility on the unaltered marls above. This cleft is 50 to 150 feet in depth or more, and the period required for its formation must place the marls above at a high antiquity. It should be borne in mind, however, that the water supply is probably now at its minimum, and the means of erosion were formerly much greater. The bed of this stream was in places absolutely dangerous from a curious cause. The side being vertical there was no upward escape, and the bed of the stream was so deeply clogged with the soft moving mass of silted fine mud that, although there was not more than 18 inches of water, I was compelled, and with difficulty, to retrace my course. As usual when anything risky is attempted, my native deserted me. At its embouchure from the cleft this remarkable stream passes though the lower gravel and shingle deposits which form the basement of the marls.

On this occasion, when crossing the marls above, I came suddenly upon three ibexes. They whistled or snorted like Highland sheep. I let fly ball cartridge from my fowling piece, but missed them. My shots attracted some wild and villainous-looking mountaineers, who followed me to camp that night, where I first became aware of their existence. They could not make themselves understood, but I fancy wished to know should they hunt the "beden." Almost immediately after I lost sight of the ibexes I came across some very interesting and rather extensive ruins of apparently great antiquity. I brought the whole of our party to the spot the following day. The ruins will be found planned and described in Professor Hull's work at page 121, and again in Major Kitchener's Appendix to the same at page 216. I leave it to future explorers to identify this site with the ancient Gomorrah.

The following observations were obtained from Sheikh Seyd, of the Ghawarniheh, with regard to the Ghôr :—

"Rain generally falls on about ten or twelve days of the year, usually during December and January. Some years there is none. Much more is seen on the highlands on either side, which does not reach the Ghôr.

"They grow wheat, barley, oats, dhourra (Sorghum), indigo (one sort), tobacco, and Indian corn.

"Wheat, barley, and dhourra are sown in January ; Indian corn in March. Tobacco is sown in January. Indigo is sown in March. They grow

some white grapes on trellises. They do not know henna (Lawsonia) Zukkum (Balanites) is common, but made no use of. Mallow is boiled and eaten. Osher (Calotropis) is given to women when barren, or to procure milk, the milk of the bush being taken. Water-melons and cucumbers are cultivated. Of the fruit of the Salvadora (arak) they make a sort of treacle or sweet mixture. Never heard it called 'Khardal;' Khardal is mustard, but they have none.

"They (the Ghawarniheh) mostly leave the Ghôr and go up to the hill country in the hottest weather. Snakes and insects are very bad and very numerous in the Ghôr at that season."

My inquiries about Salvadora were made relative to its claims to being the tree of the mustard-seed parable. I could get no corroboration from these Bedouins of this view, first put forward by Irby and Mangles, who are not, however, responsible for the statement that it is called "Khardal" (mustard), nor do they say, as has been misquoted, that they found the "Ghorneys" using it as mustard. The theory has not, in fact, "a leg to stand on."

Mr. Merrill, U.S. Consul at Jerusalem, has kindly made inquiries for me as to the origin of the seed sown by the Arabs. He informs me they save it from year to year, but if they should run short they obtain supplies from Jerusalem. It is to the Mediterranean sea-board westwards, therefore, we must look for the home of any suspicious weeds of cultivation in the Ghôr; and those which are not natives of this region may perhaps be held less open to question as to their being indigenous in the Ghôr.

No sooner has the river Hessi issued from its unfruitful ravine than the scene changes as if by magic. As it moistens the plain, an extensive growth of bushy, low-sized trees almost covers the district.

In the upper Ghôr these are densely tangled and matted, almost to the exclusion of other growth, and afford shelter for multitudes of birds. In the lower Ghôr the trees are more scattered; often no doubt in the more peopled district being consumed for firing, and thinned to admit of pasturage and cultivation. These trees are chiefly Acacias (three sorts), Salvadora, Zizyphus, and Balanites. There is also a Rhamnus not unfrequent, and Mr. Lowne mentions Moringa aptera. This latter writer misquotes the authors (Irby and Mangles), whom he criticizes, when he ascribes to them the remark that the oasis contained "an almost infinite variety of shrubs and bushes." Their words are: "the variety of bushes and wild plants became very great," a phrase which is well within the bounds of the reality.[1]

Of these trees the Salvadora is the most abundant, and usually occupies a slightly lower region than the Acacias. It grows in clumps, several stems arising together, branching at once, and all combining to form a single tree. It is very leafy above, with small entire leathery leaves; below it displays a labyrinth of greyish branches. The flowers and fruit

[1] I quote from Murray's edition in the Colonial and Home Library, vol iv, p. 108, ed. 1884.

are small and numerous. It attains a height of about 20 feet, a stray branch reaching to 25 or 30 feet. The Balanites (Zukkum) is usually a smaller tree, and is now in full fruit. Its fruit is green and wrinkled, somewhat like that of a walnut. Its leaves are few and small. The Zizyphus is the well-known sidr or thorn of the Arabs, the dôm when reaching a large size. Its branches, strewed in lines along the ground, form the fences to protect the grain from cattle.

As the plain slowly lowers to the Dead Sea, becoming at the same time gradually moister, the vegetation changes. The above species decrease in the number of individuals. Tamarisks, Osher, Salsolas, Prosopis, and Atriplices take their place in abundance. Of these, the Osher (Calotropis procera) is the most remarkable. It is somewhat like a gigantic small-leaved cabbage bush, with a strong infusion of cactus blood and the bark of a cork-tree—utterly strange-looking to European eyes. Its fruit, the size of a large apple, is full of silk and air, and is probably to be identified with the "apples of the Dead Sea." The drawing of these "trees that beren fulle faire apples, and faire of colour to beholde," by Sir John Maundeville, is by no means unlike the Osher. If the early traveller's figure stands for any real thing it is probably for this bush, which here attains a remarkable size. Of it the writers already quoted say: "We were here (Ghôr es Safieh) surprised to see for the first time the Osher plant, grown to the stature of a tree, its trunk measuring in many instances 2 feet or more in circumference, and the boughs at least 15 feet in length, a size which far exceeded any we saw in Nubia; the fruit also was larger and in greater quantity." This remark is interesting in connection with Captain Burton's, that the Osher in South Midian is "a tree, not a shrub" ("Land of Midian," ii, 206), as though the plant was more at home in the Eastern continent. Castor-oil (Ricinus communis) is also very conspicuous and large (20 to 25 feet), chiefly in the same localities as the Osher. Other bushes are the leafless Leptadenia pyrotechnica, and the poplar, Populus euphratica. All these were seen in the Ghôr el Feifeh also. A tree of the latter, about 50 feet high, near the Dead Sea, is, I think, the largest tree in the whole Ghôr. Oleanders and Osiers are confined to the embouchures of the stream from the mountains or farther up.

As we approach the Dead Sea, occasional swamps produce jungles of various late grasses, chiefly Arundo Phragmites (*P. gigantea J. Gay*), *Erianthus Ravennæ P. de B.*, and *Imperata cylindrica P. de B.*, mixed with several Cyperaceæ, of which the most interesting were *C. eleusinoides Kunth.*, and sparingly, I believe, *C. Papyrus Linn.* Salter patches are given up to Juncus maritimus and *Eragrostis cynosuroides Retz.* The former (var. arabica) was from 4 to 7 feet high. Tamarisks, Suædas, Salsolas, Salicornia, and Atriplices are the last to fail. Tamarisk, Salicornia herbacea, and a Ruppia not in flower, probably *R. spiralis, L'Her.*, were the very last; the former all along the inner margin, the latter two where the mud of the sea is in union with that of the Tufileh estuary. The latter two encroach downwards upon the forbidden area here, from

salt swamps to those which are too salt, as they do upwards in our own country, from salt swamps up fresher estuaries until they meet those which are too fresh.

A brief space, fifty yards or more, varying with the slope and the fulness of the basin, is barren saline mud or sand. This foreshore is at other seasons under water, and all which is liable to be submerged is barren, except in the two instances above mentioned on the Tufileh mud.

An interesting assemblage of sea plants is congregated around the Dead Sea. These are *Sonchus maritimus Linn.*, *Inula crithmoides Linn.*, *Lotus tenuifolius*, *Rchb.* (*Lythrum hyssopifolium Linn.*), *Salicornia herbacea Linn.*, *Salsolæ*, *Suædæ*, *Atriplices*, *Scirpus maritimus Linn.*, *Fimbristylis dichotoma*, *Rottb.*, *Juncus maritimus Linn.*, and *Ruppia sp.?* (*R. spiralis L'Her.?*). Some of these at first sight will hardly fail to impress the observer with the idea that the vegetation must recently have undergone distinct maritime conditions; but a little reflection will show that the visits of aquatic birds, and the present suitability of the circumstances, suffice to explain their presence. Moreover, the most conspicuous are of the easily diffused pappus-bearing compositæ.

Several of the most interesting species were obtained by penetrating into the jungles in all directions. In the very heart of these, Cynanchum acutum was abundant, trailing convolvulus-like about the reeds. These jungles, and along the banks of the stream, were my best hunting grounds.

The luxuriance of some familiar British aquatic plants may be alluded to. The sea rush, as already mentioned, reaches 7 feet in height, Inula crithmoides 4 to 7 feet, and Lycopus europæus, 5 to 6 feet in height, while gigantic plants of Lythrum salicaria had reached a height of 14 feet!

One of my most interesting "finds" was that of a handsome acacia, *A. læta Br.*, in the Ghôr. This species has not been recorded north of Syene (Assouan) in Upper Egypt, seven degrees farther south. There were several trees of this very distinct species, which is much larger and better furnished than the other acacias met with. An Arab to whom I silently pointed out one of this species at once exclaimed "Sont," and proceeded to show me the difference in its leaves and fruit from that of a Seyal, its neighbour. At Akaba an Arab called a large A. tortilis "Sunt." It is an Egyptian name, but never applied to the "Seyal."

A few other remarkable species not noticed by previous botanists in Palestine may be mentioned:—*Cocculus Læba D.C.*, *Sclerocephalus arabicus Boiss.*, *Zygophyllum simplex Linn.*, *Indigofera pancifolia Del.*, *Rhynchosia minima D.C.*, *Trianthema pentandra Linn.*, *Eclipta alba Linn.*, *Pentatropis spiralis R. Br. Salsolaceæ* (several), *Digera arvensis Forsk.*, *Boerhavia verticillata Poir.*, *B. repens Linn.*, *Euphorbia ægyptiaca Boiss.*, *Cyperus eleusinoides Kunth.*, and some others. Several of these are distinctly tropical, and add to that most interesting group of those plants already known to inhabit the "sultry Ghôr."

I gathered altogether at the southern end of the Dead Sea about 225 identifiable species of flowering plants. The total there may reach 300.

Many annuals and Mediterranean spring plants, especially of the Leguminous and Cruciferous orders, were still in a young condition.

I defer a fuller analysis for the present, merely remarking that the flora of the Ghôr, a unique locality, is even more interesting, and that in no mean degree, than it has hitherto been shown to be.

The Ghôr has been visited by two competent botanists, Messrs. B. T. Lowne in 1864, and W. Amherst Hayne in 1872, both in Canon Tristram's company. These gentlemen have, however, hardly dealt with the oasis of Es Safieh. Mr. Hayne's essay, appended to Canon Tristram's "Land of Moab," is only enough to make a botanist wish for more of it, while Mr. Lowne's valuable paper, published by the Linnean Society, deals with the south-western extremity of the Ghôr, two dry desert wâdies whose flora is the northern wave from Sinai and the Arabah.

Although devoid of life, the sandy beach of the Dead Sea mentioned above was full of interest. On it were strewed salted remnants of a variety of insects, beetles, spiders, locusts, and seeds which had been floated from the Ghôr by the rivers and promptly killed and cast ashore. Several of these were identifiable, although of no value as specimens. A better collection in the same place was that of shells. In some places these were thickly strewn, and I went through these natural museums with the greatest care, obtaining thus several varieties not previously found in Palestine. Amongst these are *Planorbis albus Mull.*, *Limnæa peregra Desf.*, *Physa contorta Mich.*, *Achatina* (*Cionella*) *brondeli Bourg.*, *Ferrusacia thamnophila Bourg.*, and a new species of Bulimus.

The tamarisks near this were inhabited by a species of ant. These make their home, in parties of 20 or 30, in a sort of purse of vegetable matter, made out of scraps triturated together and worked into a smooth papery lining. The species is *Polyrhachis seminiger Mayr.*, belonging to a tropical, chiefly Indian, genus. Multitudes of little fishes, *Cyprinodon dispar Rupp.*, as mentioned by Tristram, were seen in the salt pools close by.

Although my visit was too early for many species of plants, yet on my first day in the Feifeh I found at once numerous kinds not seen in Sinai, of which a good many were both in flower and fruit. These must flower continuously, or with a very brief respite; others, chiefly European and Mediterranean species, were rapidly advancing to the flowering stage during our sojourn in the Ghôr.

A good number of Sinai species occur in the Ghôr. An effect of the moister climate on some of the woolly desert plants was noticeable. These became very perceptibly less so in the Ghôr. Pulicaria undulata, P. arabica, Tribulus terrestris, Verbascum sinuatum, may be instanced. Possibly the salinity of the atmosphere assists in this; the tendency of plants to become glabrous by the seaside is familiar. On the other hand, excessive dryness appears to provoke pubescence in plants, as well as other striking qualities of pungent odours, gummy exudations, and conversion of leaves to spines, all of which we may expect to find diminished if the species can accommodate itself to moister conditions.

I have hitherto spoken almost entirely of the plants. The district is of as great interest in other branches of natural history. Canon Tristram's various works have made this fact familiar. My prolonged stay at an unusual season must indeed be my excuse for trespassing on a subject he has made so peculiarly his own.

The Ghôr swarmed with birds. About forty species were observed, of which, with two or three exceptions, specimens were obtained. Some, especially doves of two species, and bulbuls of the sort already met, were extraordinarily abundant. The doves were the Indian collared turtle, *Turtur risorius Linn.*, and a smaller beautifully bronzed species, *T. senegalensis Linn.*

On the Dead Sea mud, redshanks, lapwings, and sandpipers flitted and fed, but they were confined to those parts of the margin which were tempered by fresh water. Snipe, water-rails, and ducks of British sorts were frequently met with. Marsh sparrows in great flocks also kept near the shore. Buntings and larks of three sorts were in vast numbers throughout the stubbles of maize. The two desert partridges occurred on the margins of the Ghôr, where also the thicknee was shot. Shrikes, "boomey" owls, marsh harriers, buzzards, sparrowhawks, and kestrels were all noted. The mellow, loud whistle of Tristram's grakle frequently caught the ear, as did also the excessively discordant craking note of the Smyrna kingfisher. The beautiful little sunbird and the gaudy blue-throated robin were about equally common, the former usually frequenting those acacias which gave support to the handsome Loranthus. Several other warblers were observed, but for most of these, as well as the swifts and others, the season was too early. On the upper ground at the edge of the Ghôr several pairs of desert chats of two or three kinds might be always studied, and the impression the Ghôr gave me was that many migratory species of Palestine who ought to travel south from the Jerusalem plateau in winter found here a conveniently close and sufficiently warm retreat which they utilise in vast numbers.

Burrowing animals still give evidence of their abundance. Traps set for these were, I believe, appropriated by Bedouin lads, for I could never rediscover them. The traps were strong, and I trust they snapped on their meddlesome fingers. Jackals kept up their high-pitched scream throughout the night. Bedouins, bantams, jackals, and jackasses have all peculiarly high notes in the Ghôr. They howl together in a shrill minor key chiefly when they ought to be asleep.

Fresh boar tracks were always visible; on one or two occasions I heard the animals crushing in the jungle close ahead of me. Ibexes were seen in the ravines close by.

There are many cattle scattered through the Ghôr. These are chiefly small pretty black animals with white faces, somewhat like the Highland breed, while goat-like sheep and sheep-like goats with ears hanging 6 inches below their snouts, are herded evening and morning. Donkeys are more numerous than ponies; there are very few of the latter in the possession of the much molested and peaceful Ghawarniheh.

The Bedouins supplied us with poor milk and very small eggs.

Insect life had as yet hardly awakened. About half-a-dozen species of butterflies were observed, of which some were Ethiopian forms. Scorpions were still torpid. Molluscs, except fluviatile, were scarce, while Batrachians and Reptilia might have been almost non-existent with the exception of the Lacertidæ.

A very nimble fresh-water or rather marsh crab was very abundant. To this animal was due the multitude of burrows amongst the tufts of Juncus maritimus near the Dead Sea. Twice I saw them disappear with incredible swiftness into these holes, which were of various sizes, and of so great a depth or length I could not usually dig them out. Several that I did dig out were blind or empty, and at first these holes puzzled me beyond measure. The total absence of tracks or pads leading to them arrested my attention, while their widely different sizes, both in length and diameter, suggested something altogether new. Those crabs I obtained were by means of the Bedouin lads. The carapace of the biggest was about 5 inches by 3. They are grey in the young state, but attain a reddish tint when full grown. The species is *Telphusa* (*Potamophilon*) *fluviatilis Savign.* One was killed in our camp, showing that they ramble at night away from water or marshy places. This crab extends through Egypt to Algiers, and occurs also, I believe, farther east than Palestine.

At the time of our visit the mean diurnal temperature was about 50° Fahr. There is no universal check to vegetation in the Ghôr. Acacias, Osher, castor-oil, Loranthus, Salvadora, species of Abutilon, Zizyphus, and Balanites were bearing fruit and flower now in the coldest season in true tropical fashion.

Before we left, the sun was just beginning to "braird the lea," and there was a delicate hue of green perceptible across the ill-tilled soil.

The river, Seil Garahi, alias Hessi, was well filled with water, and on several occasions we enjoyed a swim down the swift deep rushes at the inner edge of the plain. Irby and Mangles, I think, found this river dry on their return journey from Petra.

Before bidding farewell to the Ghôr I should mention one striking peculiarity in its flora. I allude to the great number of species compared with the number of individuals. If those few gregarious kinds (chiefly trees, grasses, and shrubs) already mentioned be eliminated, the remaining sorts would very often depend on a few plants for their claim to a place in the list. Hence a brief visit may give rise to many omissions.

CHAPTER X.

Ghôr es Safieh to Gaza.

On the 27th December we finally struck tents and left our camp in the Ghôr es Safieh. As we passed westward near the south end of the

Dead Sea some interesting features were observed. The waters vary in their surface level about 3 feet between the brief wet period and the minimum level. During our visit they stood at a low level, and the drift of timber and terrestrial shells showed an upper margin at a uniform height in several places. Where the shore slopes very gradually, as in most places round the southern end, this variation in depth is sufficient to leave a wide space of foreshore uncovered. This was very noticeable during our journey along the base of Jebel Usdum, at the south-west corner of the Dead Sea. The water was there about 600 yards from the line of drift. Inside this was the usually traversed track along the base of Jebel Usdum, and above, about 7 vertical feet higher than the present high-water drift, was an older well-marked margin looking very recent and pointing to a still continuing evaporation of its waters in excess of the supply.

Logs of palm-trees frequently marked these margins, and these were seen embedded in a drifted position in the marls of Jebel Usdum as much as 27 feet above the highest level now attained by the waters of the sea. Palm-tree trunks were also seen along the river Tufileh in the Ghôr el Feifeh and lower about its estuary. These were probably, from their appearance, torn out of its bed during a flood in a semi-fossilised condition. Thus the subsidence of this sea has continued and is continuing, and earlier deposits are being continually carried down to form more recent ones and to fill up the cavity. Most parts of the Dead Sea south of the Lisan are very shallow. In two places, when looking for a swim, abreast of Jebel Usdum and north from the Ghôr es Safieh, I waded out several hundred yards without getting water above my knees, and the water, like that at the mouth of the Jordan at the other end, is usually turbid. The work of reclamation steadily proceeds, and as the sea is known to be of very considerable depth (200 fathoms) in other places there is abundant room for the inflowing sediment.

Of Jebel Usdum I have given a description to Professor Hull which has appeared in his account of our expedition. It proved, as it looked, to be of little botanical interest, and I should not have climbed it had I not seen it stated in several places that it was inaccessible. The plants found on its upper portion, 650 feet above the Dead Sea, were very few, the whole being a bare flat with a slight central ridge of barren marl—the cap of the central core of rock-salt. A couple of solitary tamarisks occurred and several Salsolaceæ. The latter were *Noœa spinosissima Moq.*, *Atriplex alexandrina Boiss.*, *Salsola rigida Pall.*, var. *tenuifolia.*, *S. letragona Del.*, *S. fœtida Del.*, and *S. inermis Forsk.* The "mountain of salt" is, in fact, well characterised by this order. Several of the above are additions to the flora of Palestine. On the western slope a few desert species of the ordinary and familiar types were collected, and these gradually increased to the base at the Mahauwat Wâdy, whose flora has been already the subject of a special paper by Mr. Lowne. This writer gathered here, and in the neighbouring Wâdy of Zuweirah, eighty-two flowering species chiefly of the desert sorts. These are all, or almost all, either Sinaitic or occur in the Wâdy Arabah.

Leptadenia pyrotechnica Forsk., and *Ochradenus baccatus Del.*, grow to a large size here. The latter was about 15 feet high, close to the Dead Sea, at the confluence of these two wâdies. *Zilla myagroides Forsk.* was here in flower, bearing a pretty little blossom like our Cakile maritima.

During the ascent of Wâdy Zuweirah to the plain of South Judæa the following fresh species were collected:—*Notoceras canariense R. Br.*, *Enarthrocarpus lyratus D.C.*, *Zollikoferia sp.?* (*Z. stenocephala Boiss.?*), *Lithospermum tenniflorum Linn.*, *Heliotropium rotundifolium Sieb.*, *Ballota undulata Fres.*, *Arnebia linearifolia D.C.*, and *Plantago Loefflingii Linn.* A large bulb, *Urginea Scilla Stein.?*, now only in leaf, marks well the transition stage from the Ghôr flora to that of the Judæan wilderness. Desert species, as Fagonia, Zygophylla, Retama, Acaciæ, Resedaceæ, Cucumis, Microrhynchus, Dæmia, Ærua, Forskahlea, and others were here for the most part taken leave of. These ascended perhaps a third part of the climb, several ceasing at about the old Saracenic Fort. Upwards, and on the Judæan plain, a great change takes place. We found ourselves ere long on rich land arousing itself to a spring growth, although the most inclement season was not yet reached. The need of water is of course everywhere apparent. Withered remains are scarcer than in the desert, and the ground is often bare for considerable spaces, or with a few early patches of species to be presently mentioned. It becomes difficult to recall the existence of the contiguous Ghôr flora with its perennial luxuriance. Hardly a bush and no trees are observed to break the monotony. Travelling still westwards, evidences of cultivation, that is to say of the soil being "scratched" and sown, appear. Soon after Bir es Seba, two days from the Ghôr, we find ourselves amongst softly swelling downs covered with sowers and ploughers, but otherwise monotonous in aspect, as the cretaceous limestone formation usually is.

The species first observed at the head of Wâdy Zuweirah and upwards to Bir es Seba were numerous, many of them spring Mediterranean species just opening their flowers. The following were conspicuous:—*Carrichtera Vellæ D.C.*, *Biscutella Columnæ Ten.*, *Enarthrocarpus lyratus*, *Del.?*, *Silene dichotoma Ehr.*, *S. Hussoni Boiss.*, *Helianthemum Kahiricum Del.*, *Astragalus sanctus Boiss.*, *A. alexandrinus Boiss.*, *Erodium cicutarium Linn.*, *Senecio coronopifolius Del.*, *Scorzonera lanata M.B.*, *Calendula arvensis Linn.*, *Achillea santolina Linn.*, *Anchusa Milleri Willd.*, *Cyclamen latifolium Sibth.*, *Ajuga Iva Schreb.*, *Satureia cuneifolia Ten.*, *Marrubium alysson Linn.*, *Salvia verbenaca Linn.*, *S. controversa Ten.*, *S. ægyptiaca Linn.*, *Eremostachys laciniata Linn.* (in leaf only), *Paronychia argentea Lam.*, and *Urginea undulata Steinh.* (?). Several of these are pretty little bright-flowered yellow and blue annuals.

We were now travelling on horseback, and I had no longer the same facilities for botanising. The pace was usually too fast. My method was to keep well ahead till I reached some inviting point, and then dismount and botanise, usually holding a rein across my arm. The result was that I was usually left far behind, or in hot pursuit of the party. Sometimes I lost my way altogether. It would have needed a botanical circus

rider to get on and off his horse with comfort as fast as new flowers occurred.

Several mosses and lichens were gathered on this march. The mosses were *Tortula muralis Linn.*, *Bryum atropurpureum W.* and *M.*, and a Hepatica, *Riccia lamellosa Raddi.* The mosses are both British species.

In animal life, gazelles, mole-rats, *Spalax typhlus Pall.*, and sand-rats, *Psammomys obesus Rupp.*, appeared to be the most abundant. I captured examples of the latter two, which are now in the British Museum.

The mole-rat, the Asiatic representative of the English mole, though of a very different family, is a strangely ugly little animal with long protuberant teeth. Mr. Armstrong showed me a ready way of obtaining specimens, which at first sight appeared to be hopeless. His plan was to watch the freshly up-lifted heaps of soil which are raised in line at short intervals, and notice the direction the animal is burrowing in by the relative freshness of the heaps. Soon a slight movement will be observed in the freshest heap or beyond it, and on firing a charge into the ground at once, the gun about a foot from a point a few inches ahead of the moving place, the animal will be stunned and may be at once dug out, probably alive. I tried this plan twice successfully.

A buff-coloured snake, about 3 feet long, *Zamenis atrovirens Gray*, was killed in the neighbourhood of Tel Abou Hereireh. Geckos and toads were also captured. A brown and grey fox (Vulpes nilotica ?) was seen near Bir es Seba. Laurence shot a fine wild cat (*Felis maniculata Rupp.*) in a gulley near Tel Abou Hereireh. It measured 2 feet 8 inches from the tip of the nose to the tip of the tail, the tail itself being 1 foot. It was of a greyish-brown colour, brindled with sandy brown across the back and down the sides. The tip of the tail was ringed with black. This is supposed to be the cat found embalmed in Egyptian monuments. It is found along the Nile, and as far south as Abyssinia.

I spent as much time as I could in digging up bulbs. Of these there were several identifiable species, as *Xiphion palæstinum Baker*, a dwarf sweet iris, with large flowers in tints of buff and French grey. *Colchicum montanum Linn.* occurred in the greatest abundance, white or pale mauve, and was very beautiful. *Urginea Scilla Sternh.* and *Asphodelus ramosus Linn.* were most abundant, increasing westwards to Gaza. *Bellevallia flexuosa Boiss.* and *Ornithogalum umbellatum Linn.* also frequently appeared.

About Bir es Seba the birds observed were cranes, black and white storks, buzzards and kites, trumpeter bullfinches, pintail grouse, Greek partridge, black-headed gulls and lapwings, as well as several desert larks and chats. The technical names of these species will subsequently be enumerated. The trumpeting of the crane was heard frequently, usually at night.

At Tel el Milh, in a swamp, a flock of teal was flushed, and a number of the black or Sardinian starlings came to roost in the rushes. Their note is different from that of our species. A snipe handsomely marked

with white, as seen in flight, with a rich brown back, and showing vivid green tints also on the upper surface, was unfortunately missed. It uttered a peculiar quacking cry, and I had several good views of it, There were three or four birds in the marsh, and I have no doubt it was the painted snipe, *Rhynchæa capensis Linn.*, which has not previously been known to inhabit Palestine. It is a widely spread species in Africa.

The Cyclamen and the Colchicum are constantly exciting our admiration. In the marsh just mentioned *Spergularia marginata Koch.*, *Cyperus longus Linn.*, and *C. lævigatus Linn.*, var. *junciformis*, were collected.

A feature noticed by all travellers is the abundance of snails on the small shrubs, chiefly on Anabasis articulata Boiss. The commonest of these was perhaps *Helix Seetzeni Koch.*, but I also gathered *H. joppensis Rottb.*, *H. syriaca Ehr.*, *H. protea Zugl.*, *H. vestalis Pass.*, *H. tuberculosa Conrad.*, *H. candidissima Drap.*, *H. Boissieri Charp.*, and *H. cavata Mouss.* H. cavata and H. Boissieri are the finest of these species in size, the latter being a heavy solid-shelled sort. H. tuberculosa is trochiform, or top-shaped. This species and his flattened brother, *H. ledereri Pfr.*, gathered between Gaza and Jaffa, are both scarce. They are the prettiest, being delicately mitred and foliated at the whorls.

The black-headed gulls, and no doubt others of the birds, subsist on these molluscs.

Continual evidence of wild boars occurred, and some of our party had the good luck to obtain a sight of a "sounder," or family party. They seem to feed chiefly on the bulbs, of which some large kinds are marvellously plentiful. An Urginea (probably *U. undulata*) was sought after especially, so that it was with difficulty roots which they had not mashed were obtained to bring home. It has since flowered, and in the absence of leaves is doubtfully referred to this species by Mr. Baker. Urginea Scilla covers the ground for miles, and grows sometimes to the exclusion of everything else. It appears to be a scourge to the fellahîn. Great heaps of its bulbs, the size of a melon, are often met with, and lines of its growth are commonly left to mark off each cultivator's allotted space. *Asphodelus ramosus Linn.* is nearly as common. The brilliant anemone (*A. coronaria Linn.*), the "lily of the field," was picked in flower on the last day of the year. The curious stringy *Thymelæa hirsuta*, whose acquaintance I first made on the shores of Brindisi on the outward journey, is profusely common. Between Bir es Seba and Gaza the species now in growth are almost altogether of the Mediterranean type. A few desert species occur, but chiefly of a Syrian or Mesopotamian character, as Caylusea canescens, Deverra tortuosa, Alhagi maurorum, Peganum harmala, Citrullus colocynthis, Artemisia herba-alba, and Anabasis articulata.

The universal "rimth" (Anabasis or Salsola) of the Sinai Bedouin is called by the Doheriyeh Arabs "Shegar." It may be that the Arabs put off inquiries from one whom they perceive to be unlearned in their language with trivial and unmeaning terms; but the results of my short experience would tend to show that little importance can be attached to

these local names. Different tribes and places yielded different terms, so that on comparing my collection of Arab plant-names with those given by several other writers, hardly two were identical, or even alike. In the Serbal district of Sinai, Wâdy Rimthi takes its name from the Anabasis.

The soft note of the trumpeter bullfinch, rising and falling as if borne on the wind, while the bird is concealed on the ground somewhere close by, often arrested my attention. It was impossible to tell whether it was ten yards or ten times that distance away.

Travelling west past Tel Abou Hereireh to Gaza, the following plants occurred in addition to those mentioned already about Bir es Seba :— *Malcolmia pulchella Boiss*, *Matthiola humilis D.C.*, *Alyssum Libyca Viv.*, *Erucaria microcarpa Boiss.*, *Capsella Byrsa-pastoris Linn.*, *Polycarpon succulentum Del.*, *Dianthus multipunctatus Ser.*, *Silene rigidula Sibth.*, *Ononis serrata Forsk.*, *Hypericum tetrapterum Fres.*, *forma.*, *Erodium hirtum F.*, *Bupleurum linearifolium D.C. ?*, *Carthamus glaucus M.B.*, *Thrincia tuberosa D.C.*, *Tolpis altissima Pers.*, *Scorzonera alexandrina Boiss.*, *Mandragora officinarum Linn.*, *Withania somnifera Linn.*, *Echium plantagineum Linn.*, *Lamium amplexicaule Linn.*, *Euphorbia exigua Linn.*, *Paronychia nivea D.C.*, *Andropogon hirtus Linn.*, and *Poa annua Linn.*

CHAPTER XI.

Gaza to Jaffa.

At Gaza we were kept a few days in quarantine by the Turkish authorities. This was not because we were deemed infectious (the idea was absurd), but to levy a tax on our purses. By the prompt interference of Lord Dufferin, British Ambassador at Constantinople, to whom we telegraphed, we were released in four days instead of being confined for a fortnight.

This delay was to me most valuable, as it enabled me to sort my rapidly made collections of the last few days.

On our last day, having liberty to leave quarantine ground, I gathered a good many species south of Gaza which I had not seen before. Many of these belong to well-known Mediterranean types, but there is still an important admixture of desert and Egyptian forms, belonging to a somewhat more southern group.

Gardens of fruit trees, olive groves, and enclosures hedged by the prickly pear (*Opuntra vulgaris Linn.*) reached our camp from the inland side. On the leeward we were hemmed in by high sandhills, the vanguard of an ever advancing column, driven westward by the prevailing winds, which is gradually swallowing up Gaza, old and new, as well as a long belt of coast north and south of it.

Some laborious journeys across this belt of sand, often three or four miles broad, impress them vividly on my memory. They yielded exceedingly few species, being as a rule completely barren. I may

mention *Silene succulenta Forsk.*, *Scrophularia xanthoglossa Boiss.*, *Euphorbia terracina Linn.*, which grew well out on the dunes.

These sands are effecting a steady and enormous change along the coast. It is difficult to reach what is left of Ascalon, which remains on an insulated patch of rocky ground by the sea completely cut off inland. Little of it is left unsmothered. Ashdod is undergoing the same fate. Gaza retreats inland in front of the arenaceous sea, and it is only at intervals, or by ascending some eminence which is rarely met with, that one obtains even a view of the Mediterranean. This was to me a keen disappointment, and I sighed for the reality for a cliff-girt coast like that of north-western Donegal.

In and about the Gaza olive groves several birds familiar at home abounded. Others occurred on the plain hard by. It was refreshing to hear their well-known voices in this strange and inhospitable land. There were English sparrows, swallows, buntings, goldfinches, black redstarts, chaffinches, stonechats, willow-wrens, and chiffchaffs, blackbirds, and hooded crows. Other birds seen were Egyptian kites, buzzards (common species), "boomey" or little southern owl, red-breasted Cairo swallows, pelicans, dunlins, calandra and crested larks, bulbuls, pied chats, and Menetries' wheatear.

At an estuary about four miles south of Gaza, and up a flat wâdy leading to it, I obtained several good plants. This would be capital ground to botanise at a later season. The following are the most interesting:—*Brassica Tournefortii Gou.*, *Cratægus azarolus Linn.*, *Neurada procumbens Linn.*, *Ceratonia siliqua Linn.*, *Astragalus aleppicus Boiss.*, *A. macrocarpus D.C.* (not in fruit), *Medicago laciniata All.*, *Ononis natrix Linn.*, var. *stenophylla*, *Anagyris fœtida Linn.*, *Acacia albida Del.*, *Prosopis stephaniana Willd.*, *Xanthium strumarium Linn.*, *Artemisia monosperma Del.*, *Centaurea araneosa Boiss.*, *C. pallescens Del.*, *Atractylis prolifera Boiss.*, *Linaria Hœlava Forsk.*, *Anchusa ægyptiaca Lehm.*, *Prasium majus Linn.*, *Andrachne aspera Linn.*, *Ficus sycomorus Linn.*, *Ricinus communis Linn.*, *Boerhavia verticillata Poir.*, *Plantago albicans Linn.*, *Euphorbia peploides Gou.*, *Emex spinosus Camp.*, *Salsola inermis Forsk.*, *Cyperus schœnoides Griseb.*, *C. rotundus Linn.*, *Fimbristylis dichotoma Rott.*, and *Pennisetum cenchroides Rich.* Some of these, as the castor-oil, the little anomalous desert Neurada, and the tropical Boerhavia, point to the great heat of Gaza.

The trees about Gaza are chiefly date-palms, olives, sycamore fig, caroub (Ceratonia) or locust-tree, and fig; a very handsome tamarisk (*T. articulata Vahl.*) reaches a height of 30 or 40 feet, and has bright green foliage very refreshing and home-like after the dull grey or lifeless green of the desert. The olives are of enormous age. They usually have unbranched trunks, 2 or 3 feet in height, then perhaps divided, and at 7 or 8 feet the leafy canopy, browzed below to a level height by cattle, begins. The average height of the tree is 20 to 25 or 30 feet. Old trees have often mere shells of their trunks remaining. I measured the two largest I saw, a few miles north of Gaza; their right

was 18 and 20 feet respectively at 2 feet from the ground, a size which was maintained, or very nearly so, till the trunk forked.

At Ascalon, which Laurence and I visited at a gallop just before dark, I gathered *Calycotome villosa Linn.* in the sands, a pretty yellow shrubby pea-flower. Ascalon is a wilderness of shifting sands. The small space of remaining earth is inhabited by a few Arabs, from whom I got my first Jewish coins. Several pillars of marble and black granite lie about the ruins of the crusading fort, but none are in position.

Frequently dogs with unmistakable traces of jackal parentage were seen along here. I was assured it is by no means uncommon for these animals to interbreed along this part of the Mediterranean seaboard.

The chief crop showing is of lentils. I saw bean-stalks a foot and a half high in the first week of January.

A few of the commonest British plants, as Capsella Bursapastoris, Silene inflata, Convolvulus arvensis, and Rumex obtusifolius, occur along here.

A handsome tree introduced from the East is very common. It is the Melia azederach, or Pride of India. It is deciduous, and only bearing fruit, as I saw it, along the enclosures or by the villages. *Lycium europæum Linn.*, *Rubia olivieri A. Rich.*, *Ephedra alata Dcne.*, *Asparagus aphyllus Linn.*, and *A. acutifolius Linn.*, are the larger plants, which help to stop up the gaps in the prickly pear fences.

At Yebdna, and thence to Jaffa, *Narcissus Tazettæ Linn.* was in flower. Some damp low-lying patches were white with it. Other species were *Ruta graveolens Linn.*, Erodium sp.? (*E. bryoniæfolium?*), *Retama retam Forsk.* (in flower), *Lithospermum callosum Linn.*, *Echiochilon fruticosum Desf.*, *Thymus capitatus Linn.*, *Lavandula stœchas Linn.* and *Rhamnus punctata Boiss.* The Retem broom was in flower, very pretty, white variegated with purple. I found it once previously in blow in the desert.[1] *Lawsonia alba Linn.* (henna) was seen several times, but usually here (as at Akaba) either in or on the verge of enclosures. No doubt it remains from ancient gardens at Engedi, where it is, I believe, abundant. It is native much farther east.

In the gardens next the hotel at Jaffa were some very interesting plants. I did not learn their history, or who made the collection. Some of the Sinaitic and Dead Sea plants were there—the handsome trailing pea, *Dolichos lablab*, which I found in the Ghôr, a widely cultivated plant in hot countries, but perhaps originally introduced from India. The Sinaitic Gomphocarpos, a milky asclepiad with pods full of silk, one of the most remarkable species in the peninsula, was here also; it differed, however, from the Sinaitic plant in being shrubby and about

[1] This is the Hebrew "rothem" or "rotem," translated juniper in the Old Testament. The same name (Retama) is applied to a species of a closely allied genus, the *Spartocytisus nubigenus*, of the middle zone of vegetation of the Peak of Teneriffe, as I learn from Mr. Moseley's "Notes by a Naturalist on the 'Challenger,'" p. 5.

6 feet high, while the desert plant averaged from a foot to a foot and a half.

Ricinus communis (the castor-oil); Echaverias, Lavandula Slæchas (the handsome purple woolly lavender just mentioned), and quite a collection of Acacias and Mimosas, with oranges, bananas, indiarubber trees, fan-palms, Eucalyptus, Mesembryanthemums, and many others made up a tropical garden which will well repay the traveller's visit. I was peculiarly interested to see my Boucerosia from Mount Hor here, a cactus-like plant, which seems to be a new species. Can it be, like the Dolichos, an ancient weed of cultivation? When we let the mind go back to times of ancient civilisation, to the traffic and merchandise of pilgrims, monks, and Bedouins, of Israelites and Phœnicians, Pharaohs and Ptolemys, Greeks and Romans, Turks and Crusaders, caravans and ships laden with food, with gums, spices, fruits, and wares during the whole history of mankind, we must reflect that many plants we now view as inhabitants, especially those of any economic use, may have hailed originally from remote sources. Speculations of this kind, at once so uncertain and so unpalatable, had better perhaps not be indulged in. They can only lead to doubt and discussion. Granted that the "osher" is known by the Bedouin "Doctrine of Signatures" as a plant of domestic value, may we not theorise as to whether wandering tribes have not carried it from Midian or Nubia to Sinai? from Sinai to its far northern home in the Ghôr? and so with many others. This line of thought, which these gardens naturally produced, may, I think, except in rare instances, be better dispensed with.

The gardens at Jaffa were fully supplied with its own brand of most excellent oranges.

CHAPTER XII.

Jerusalem.

Between Ramleh (a few miles from Jaffa) and Jerusalem, during an ascent of over 2,000 feet, many fresh species occurred. The chief change in plant life lay in the great increase of low shrubby vegetation on the limestone hills and terraces. I had little time to botanise, but with hard galloping to make up for delays, I secured several sorts in condition to be studied. An oak, *Quercus coccifera Linn.*, and a handsome large-leafed arbutus in full flower, *Arbutus andrachne Linn.*, are two conspicuous trees or bushes characteristic of the rocky regions above the plain of Ramleh. A large daisy, *Bellis sylvestris Cyr.*, similar except in size to our own Bellis perennis, was in flower. The handsome locust-tree, usually here of only the stature of a bush from being cut for firing like the others, is very frequent. Its rich dark green pinnate foliage is well known to travellers in Southern Europe, where its pods are much used to feed cattle. This is supposed to be the "locust" of St. John. At Kirjath-

jearim a solitary date-palm occurs, and I was informed at Jerusalem that near this a clump of native pines, *Pinus halepensis Linn.*, exists. Maiden-hair, ceterach, and the sweet Cheilanthes, were the ferns gathered, chiefly amongst the limestone clefts above Bab el Wad. A handsome sage, *Salvia triloba L.*, was in flower, and several other labiates, as *Phlomis sp.?*, *Micromeria barbata B. & K.*, *M. myrtifolia Boiss.*, *M. nervosa Desf.*, and *Teucrium polium Linn.* were collected. A bryony, *B. syriaca Boiss.*, and a beautiful clematis with dull purple flowers, *C. cirrhosa Linn.*, trailed along the roadside walls near the villages. The leafless Ephedra and Asparagus still help to increase the variety. The spiny-branched *Calycotome villosa Linn.*, and *Anagyris fœtida Linn.*, yellow pea-flowered shrubs, are not uncommon. Other less important plants are—*Reseda alba Linn.*, *Malcolmia crenulata Boiss.*, *Thlaspi perfoliatus Linn.*, *Erodium moschatum W.*, *Thelygonum cynocrambe Linn.*, *Ononis natrix Linn.*, *Inula viscosa Boiss.*, *Sherardia arvensis Linn.*, *Alkanna Tinctoria Tausch.*, and *Onosma syriaca Lab.* Most of these are common about Jerusalem and Bethlehem.

The birds noted were almost entirely British species. Of these the wheatear had not been seen before. *Saxicola lugens Licht.*, and I think *S. finschii Heugl.*, were eastern chats not seen since leaving the Ghôr, but here not unfrequent.

While at Jerusalem we came in for an unusually heavy fall of snow, lasting from 20th to 25th of January. There was therefore little to be done in botany around the Holy City. Fortunately we had accomplished our pilgrimage to Jericho before the snow set in, which gave me an opportunity of comparing the northern with the southern Ghôr, or hollow of the Dead Sea.

About Jerusalem, but especially along the tiny aqueduct between the Pools of Solomon and Bethlehem, some plants were in flower. *Erodium malacoides Linn.*, *E. gruinum Linn.*, *Pistacia palæstina Boiss.*, *Sedum sp.* (*S. altissimum Poir.?*), *Tordylium brachycarpa Boiss.*, *Torilis trichosperma Spr.*, *T. leptophylla Rich.*, *Pimpinella cretica Poir.*, *Galium judaicum Boiss.*, *Pisum fulvum S. & L.*, *Lathyrus blepharicarpus Boiss.*, *Carduus argentatus Linn.*, *Urospermum picroides Desf.*, *Crepis senecioides Del.*, *Anchusa mulleri Willd.*, *Onosma syriaca Lab.*, *Hyoscyamus aureus Linn.*, *Cyclamen latifolium Sibth.*, *Plantago lagopus Linn.*, *Viscum cruciatum Linn.*, *Euphorbia aulacosperma Boiss.*, *Gagea reticulata R. & C.*, *Agrostis verticillata Willd.*, and *Avena sterilis Linn.*; as well as some common British plants, as *Nasturtium officinale R. Br.*, *Cerastium glomeratum Thuill.*, *Geranium molle Linn.*, *Torilis nodosa Gœrt.*, *Rubus discolor W. & N.*, *Veronica anagallis Linn.*, & *V. Beccabunga Linn.*, will serve to give botanists an idea of the species occurring at this season.

Jerusalem, 2,400 feet above sea-level, falls within Boissier's "Plateaux" subdivision of the Oriental region. His "Flora Orientalis" deals with the countries from Greece to India in a width of about twenty degrees of latitude north of the tropics; and he divides these into (1) Mediterranean, (2) Middle Europe, (3) Oriental, and (4) Region du Dattier [or Desert].

The Oriental is subdivided to Plateaux, Aralo-Caspian, and Mesopotamian. In the first of these subdivisions of the Oriental region, Jerusalem and Damascus and the districts around and above each of these cities are placed.

The climate of Jerusalem is milder and more Mediterranean than most parts of this sub-region. The date-palm, though not native nor able to ripen its fruit, can exist, and grows to goodly dimensions, as evidenced by one well-known tree. Others occur a little lower towards Ramleh. Here and at Damascus, as I subsequently saw, the prickly pear is naturalised. A "pipi" tree, *Cæsalpinia Gilliesii*, a highland species from Buenos Ayres, was amongst the few cultivated species noticed in a recognisable condition. It was in flower beneath the windows of the Mediterranean Hotel.

From an intelligent resident at Jerusalem I obtained some information of the vegetable products of its neighbourhood which may, I think, be deemed reliable, and gives an idea of the climate.

"Frost, though occurring annually for some nights usually at the end of January, rarely lasts throughout the day, and hardly penetrates the soil [where there is any].

"The sycamore fig, orange, mandarin orange, and lemon, which ripen their fruit so well at Jaffa, will not do so at Jerusalem.

"Apricots, tomatos, grapes, figs (?), thrive better at Jerusalem than Jaffa. Pomegranates and nectarines do fairly well at Jerusalem.

"Bread melons [Artocarpus integrifolia ?] and water melons, which attain a weight of 20 to 30 pounds at Jaffa, will not ripen at Jerusalem.

"A small plum, like a greengage, succeeds better at the elevated station; but strawberries, apples, and pears have all been unsuccessfully tried.

"Olives bear well about Jerusalem, especially after a winter of snow and cold; each tree generally gives a good crop every second year. Hail sometimes damages the fruit much.

"Sesame (Sesamum indicum) is grown on the plains; its oil is used for cooking purposes [and I suppose for adulterating the olive oil]. The pulp is given to animals. It is a summer crop like the dhourra [Sorghum] after wheat and barley."

Cupressus sempervirens Linn., var. *pyramidalis*, the funereal cypress, attains a great size in the esplanade between the mosques of Omar and El Ahksa, but far finer trees were seen later at Smyrna. The "Prince of Wales tree," *Pinus halepensis Mill.*, pointed out by this name as the tree the Prince camped under, is the finest tree near Jerusalem. It is about 50 feet high, and well furnished. Smaller ones occur at the Armenian convent.

An interesting plant of Jerusalem is the red-berried mistletoe, *Viscum cruciatum Linn.*, parasitic on olive-trees, and known elsewhere only in southern Spain. Mr. Armstrong, who was always willing (when his duties permitted) to give me a helping hand, brought me specimens from the Valley of Jehoshaphat.

During the snow at Jerusalem a gazelle was shot within a mile or two of the city. This was, I believe, a very unusual occurrence. I saw the animal immediately after its death.

CHAPTER XIII.

Jericho and Northern Ghôr.

On the 14th of January we went down to the Jordan Valley. Immediately after leaving Mount Olivet I found abundance of *Androcymbium palæstinum Baker* (Erythrostictus Boiss.), first seen in the Arabah above the Ghôr. It is a stemless white-flowered plant, small but leafy, and with rather large flowers of no particular beauty. It belongs to the Colchicaceæ. I mention it specially because Mons. Barbey mentions that Roth found this plant close to Jerusalem, but that after careful search he (Barbey) was unable to rediscover it. I am thus able to confirm Roth's record. Mons. Barbey's visit (April 3) was perhaps too late for the species.

On descending even a slight distance to the east the climate at once improves. Bethlehem and the neighbourhood of Solomon's Pools are distinctly milder than Jerusalem. We gradually travel from mid-winter into spring. Several plants met with before as we climbed out of the Ghôr by Wâdy Zuweirah, are again in flower as we descend. Fumaria, Carrichtera, Biscutella, Malcolmia, Erucaria, may be quoted. Fresh forms occur, as *Hypecoum procumbens Linn.*, *Capsella procumbens Linn.*, *Neslia paniculata Linn.*, *Hippocrepis unisiliquosa Linn.*, *Hymenocarpus circinnatus Linn.*, *Astragalus callichrous Boiss.*, *A. sanctus Boiss*, var., *Trigonella arabica Del.*, *Matricaria aurea Boiss.*, *Chrysanthemum coronarium Linn.*, *Veronica syriaca R. & S.*, *Arnebia cornuta F. & N.*, *Asperugo procumbens Linn.*, *Emex spinosus Camp.*, *Muscari racemosum Mull.*, *Lamarckia aurea Mœnch.*, and others. These are mostly small bright-coloured spring flowers. At about sea-level some desert species begin to occur, as *Zygophyllum album Linn.* (in flower), *Prosopis Stephaniana Willd.*, *Reseda pruinosa Del.*, *Rætama rætam Forsk.*, *Ochradenus baccatus Del.*, *Tamarix gallica Linn.* var., and a few more of the southern Ghôr plants.

We are again amongst the marls, and before long those of the 600 feet level, so conspicuous round the Dead Sea, can, as Professor Hull concludes, be traced, but evidently far more completely denudated in this moister and more fluviatile district. Lower marl-terraces occur, but various searches failed to bring any more sub-fossil shells to light. Canon Tristram has gathered at 250 feet in the marls near here shells identical with those obtained by us at Ain Buwerrideh.

The flora of this part of the Jordan Valley is to a certain extent a repetition of that of the southern Ghôr, but many of the interesting species are missing, and others of more familiar types take their place. Widespread European species are much more numerous. Common

British species of Draba, Capsella, Thlaspi, Nasturtium, Rubus, Heloscia-dium, Malva, Galium, Veronica, Mentha, Solanum, Lythrum, Cichorium, Verbena, Euphorbia being all met with, in about the total of five species in the northern Ghôr to one in the southern. Nor did the season at Jericho appear to be more advanced than that at Es Safieh.

Jericho and its neighbourhood have been amply described by many able writers, and its botany has been well illustrated by Mons. Barbey in his work already referred to. This latter visitor has not, however, corrected one statement repeatedly made by various travellers, that of the ancient palm grove, extending for several miles around Jericho, there is no existing representative. There is one date-palm, 20 feet high, at Gilgal.

Of the characteristic species of the southern Ghôr growing here, I may mention *Zizyphus spina-christi Linn.*, *Balanites ægyptiaca Del.*, *Loranthus acaciæ Zucc.*, *Calotropis procera Willd.*, and *Populus euphratica Oliv.*, the latter being abundant along the Jordan. This poplar is remarkable for the extraordinary variety of shapes in its leaves, especially in young trees and saplings. In full-grown trees, like the one described at the Ghôr es Safieh, they become more uniform; ovate and slightly incised sometimes at the base, or faintly lobed in a wavy fashion. No trees were seen near Jericho in a mature condition. Tamarisk and the "zukkum," or false balm of Gilead (Balanites), are very abundant here. An acacia near Ain es Sultan was, I believe, *A. albida Del.*, gathered previously at Gaza. It was a stunted bush, and our old friends the acacias of Sinai and Es Safieh have all disappeared except the Prosopis Stephania, a small ragged little shrub. This little ill-favoured acacia, which thrives best on saline wet places, bears a very peculiar pod, swollen, solid, and irregular, and so like a gall or deformity of some kind that it was not until opening it and obtaining its seeds I could believe it to be a natural growth.

Bananas, oranges, and a few sugar-canes are cultivated in the Arab gardens at Gilgal, the modern Jericho.

The ornithology of the Jericho district runs in parallel lines with the botany. The European sorts are much commoner than in the Ghôr es Safieh, and the tropical and Asiatic forms generally less so. Only one couple of sunbirds, and but a few of the "hopping-thrushes" (Argya squamiceps) were seen. Shrikes were few. The palm-dove and the collared turtle were not scarce, but they were not as one to twenty here compared with those of the more southern oasis. A few bulbuls (*Pycnonotus xanthopygus H. & Ehr.*), pied chats, *Saxicola lugens Licht.*, and desert blackstarts, *Cercomela melanura Temn.*, occurred.

On the other hand, English robins, jays, chaffinches and wheatears were seen here, though not at the Ghôr es Safieh. Blackbirds, wagtails, and stonechats were commoner, and an unexpected northern visitant, a redwing, *Turdus iliacus Linn.*, was shot at Ain es Sultan. This bird has not previously been obtained in Palestine, but it is likely that the wave of unusually severe weather, about to be felt by us at Jerusalem, drove many of its companions into the country.

The river Jordan was considerably swollen, and so muddy that a plunge in its waters did not look inviting. However, Laurence and I swam it and set foot on the other side of Jordan. It was about thirty yards across, with a strong current, about enough to give equal drift and headway to a swimmer. The water was too turbid for me to learn much about its inhabitants ; however I picked up two molluscs, a bivalve and a univalve (*Corbicula Saulcyi Bourg.* and *Melanopsis costata Oliv.*) on the muddy edge of the stream.

We returned to Jerusalem by Marsaba, where we camped on the night of the 16th—unhappily our last experience of "tenting," the most enjoyable kind of Eastern life. Our intended expedition by Tiberias and Merom through northern Palestine ending in Beyrout was put a stop to by heavy snow. Before dismissing Jericho I have to mention the species gathered which were not previously met with :—*Ranunculus asiaticus Linn.*, *Matthiola oxyceras D.C.*, *Saponaria vaccaria Linn.*, *Silene palæstina Boiss.*, *Arenaria picta Sibth.*, *Rhus oxyacanthoides Dum.*, *Ammi majus Linn.*, *Aizoon hispanicum Linn.*, *Ononis antiquorum Linn.*, *Evax contracta Boiss.*, *Amberboa Lippii D.C.*, *Hedypnois cretica Boiss.*, *Hagioseris sp.?* (*H. galilæa Boiss.? Picris sp.?*, *Orobanche ægyptiaca Pers.*, *Linaria albifrons Sibth.*, *L. micrantha Cav.*, *Cuscuta sp.?* (*C. palæstina Boiss.?*), *Convolvulus siculus Linn.*, *Vitex agnus-castus Linn.*, *Phalaris minor Retz.*, *Schismus marginatus P. de B.*, *Bromus madritensis Linn.*, *Kœleria phleoides Pers.* Of these the Orobanche was a lovely bright blue species, and the Rhus a pretty red-berried thorn very like the hawthorn, but with flattened berries and minute flowers. This thorn has been found as far south as latitude 26° in Midian at about 4,000 feet above sea-level by Captain Burton. The Ononis was an erect shrub, about 5 or 6 feet high, with a few slender long spiny branches and some scattered flowers like those of our own restharrow. The Ranunculus is so like Anemone coronaria (which occurred) that it was not at first distinguished from it. Both are of a gorgeous scarlet. The Vitex was one of the very few northern representatives of the tropical Verbenaceæ. It is a straggling shrub, with dull blue flowers of no beauty, and, like many other Jericho plants, found all round the Mediterranean.

Young fragments, chiefly of Cruciferæ, Leguminosæ, and Umbelliferæ, were often picked, but for these orders the season was too little advanced.

Grasses and bulbous plants were also often too young.

On the way to Marsaba, a rough ride across many deep ravines, an interesting effect of aspect was noticeable. A slight greenish hue showed plainly on the hillsides with a northern aspect, while the others were as yet completely barren. In those places where the heavy dews of night are less rapidly dried up by the noonday sun, vegetation is no doubt always more abundant, the effect of shade also being to assist the early growth. An analogous effect was still more sharply defined in a different way on steep slopes looking southwards. These presented the usual monotonous barren chalky white appearance on riding upwards, where the eye only caught the outstanding bosses and prominences of rock and soil in the wâdy bed. It was difficult to recall this on looking back from

above in a commanding position. The numerous little depressions and shaded hollows with the first symptoms of incipient vegetation gave a faint green tint to the whole. The one rested the sight, the other was a painful glare. It was about the difference between tinted and plain glass spectacles.

At Marsaba there is a date-palm tied up and supported in the court-yard of the convent, which the monks relate was planted by St. Saba (A.D. 490). Without vouching for the truth of this statement, I was interested to learn that it always bears a stoneless fruit. Of the truth of the latter information I believe there is no doubt. This convent is interesting to ornithologists as the place of the discovery of Tristram's Grakle, whose acquaintance I had first made at Mount Hor. There were several about the convent during our visit.

On the 17th we reached Jerusalem. A week later we left for Beyrout, where our party divided itself, Professor Hull and his son returning homewards. Laurence and I, however, faced the snow and succeeded in crossing Lebanon and Hermon by the admirable French road to Damascus, visiting Baalbeck on the way. As I am not writing a volume of travels I will bring this part of my subject to a close. The snow lay many feet deep on these mountains reaching to Damascus and Baalbeck, so that I was unable to make any collections or observations of consequence on the natural history of this country, which is, moreover, fairly well made known by the researches of several eminent naturalists.

YOMA, OR THE DAY OF ATONEMENT,

With the Commentary of Rabbi Obadiah of Bartenora.

CHAPTER IV.

1. He shook[1] the box[2] violently and took out the lots.[3] Upon one was written "for the Name." And on the other was written "for Azazel." The sagan was on his right and the chief of the house of the fathers on

[1] He seized, snatched, the box and took the lots suddenly with violence.

[2] (As we learn above "and a box was there." And why was it opened with violence and haste?) In order that he might not endeavour to find out by delay which was the lot for the Name, and to take it out in his right hand, for it was a happy sign when it came up in his right hand.

[3] One in his right hand, and one in his left. And the goats were standing one on his right hand and one on his left, and he put the lot which came up in his right hand upon the goat on his right hand, and the lot which came up in his left hand upon the goat on his left hand.

his left. If *the lot* for the Name came up in his right hand, the sagan said to him, "my lord high priest, lift up thy right hand," and if the lot for the Name came up in his left hand, the chief of the house of the fathers said to him, "my lord high priest, lift up thy left hand." He put them upon the two goats, and said, "a sin-offering to the Lord."[4] R. Ishmael said "it was not necessary to say 'a sin-offering'[5] but only 'to the Lord.' And they repeated after him,[6] 'blessed be the glorious name of His kingdom for ever and ever.'"

2. He tied a crimson band[7] upon the head of the goat which was to be sent away, and caused it to stand opposite the place whence it was to be sent away,[8] and *the goat* which was to be slain[9] opposite the place of its slaying. He *now* came to his bullock the second time, and laid his two hands upon it and confessed. And thus he said, "O God, I have done iniquity, I have transgressed, I have sinned[10] before Thee, I and my house, and the sons of Aaron, the people of Thy holiness. O God, forgive the iniquities and the transgressions, and the sins which I have done, and transgressed, and sinned before Thee, I and my house and the sons of Aaron the people of Thy holiness, as is written in the Law of Moses Thy servant (Levit. xvi, 30), for on that day shall the *priest* make an atonement for you, to cleanse you *that* ye may be clean from all your sins before the Lord," and they said after him, "blessed be the glorious name of His kingdom for ever and ever."

3. He slew *the goat*, received the blood in the sprinkling-basin, and

[4] The *Shem Hamphoresh* (which was the name spelt with *yod he*) was pronounced as it is written.

[5] The decision was not according to Rabbi Ishmael.

[6] When he pronounced THE NAME.

[7] Wool dyed red.

[8] Opposite the gate by which they caused it to go out.

[9] The band of crimson was tied opposite the place of its slaying, that is to say its neck; so that it might not be changed for the goat which was to be sent away, for this had the band tied to its head and that to its neck; and neither of them were likely to be changed for another goat, for these had a crimson band tied to them, and other goats had not a crimson band tied to them.

[10] The Mishna is that of Rabbi Meyer which he learns from the Scripture, as it is written (Levit. xvi, 21), "and confess over him all the iniquities of the children of Israel, and all their transgressions in all their sins." But the wise men disputed about it, and said "iniquities," they are sins of pride; "transgressions," they are rebellions; "sins," they are unintentional faults. That after confessing sins of pride and of rebellion, he should return and confess unintentional faults would be astonishing; but he said, "I have sinned, I have done iniquity, I have transgressed;" and so with David, who said, "we have sinned with our fathers, we have committed iniquity, we have done wickedly" (Ps. cvi, 6); the decision was according to the opinion of the wise men. And what was that which Moses spake (Exod. xxxiv, 7); "forgiving iniquity and transgression and sin?" Moses said thus before the holy place at the time when Israel sinned and repented, and he made their sins of pride like unintentional faults.

gave it to him who stirred it[11] (upon the fourth row of stones in the pavement[12] of the Temple) in order that it might not coagulate. He took the censer, went up to the top of the altar, turned the coals this way and that way, and took[13] from the inner consumed portions and descended and put it upon the fourth row of stones in the pavement of the court.

4. On all *other* days[14] he took *the coals* in *a censer* of silver, and emptied *them* into *one* of gold,[15] and on this day he took *them in a censer* of gold,[16] and entered with it. On all other days he took *them* in *a censer holding* four cabs, and emptied them into *one* of three cabs, and on this day he took the coals in a censer of three cabs and entered with it. Rabbi Jose said "on every *other* day he took *the coals* in *a censer* containing a seah, and emptied *them* into *one* containing three cabs, and on this day he took *them* in *a censer* containing three cabs and entered with it." On every *other* day *the censer* was heavy[17] and on this day light.[18] On every *other* day its handle was short, and on this day long.[19] On every *other* day the gold of which it was made was yellow (ירוק) and on this day red.[20] The words of Rabbi Menahem. On every *other* day a paras[21] was offered in the morning, and a paras in the evening, and on this day he added his hands full of *incense*. On every *other* day *the incense* was finely powdered, and on this day as finely as possible.[22]

[11] He blew, and shook, and mixed it in order that it might not be coagulated if he left it until he [the high priest] had performed the service of the incense.

[12] Each row of the stones of the pavement was called *robad*, רובד. And it is not possible to explain "the fourth row in the Temple" as the fourth row in the interior of the Temple (from the door of the Temple inwards), for it is written (Levit. xvi, 17) "and there shall be no man in the tabernacle of the congregation," &c. But the teaching "the fourth *robad* of the Temple" is the same as to say the fourth row in the court as one goes out of the Temple into the court. He counted the rows, and left it upon the fourth row, and there he who stirred it stood. It is not possible that those in the interior of the Temple are meant.

[13] He took the coals and left the censer until he had taken a handful of incense and put it into the *kaf* (*cf.* Levit. xvi, 12), and afterwards he took the *kaf* and the censer into the Temple.

[14] When he took coals from the second pile [on the altar, which was the pile] for the incense, to carry in to the inner altar for the morning and evening incense.

[15] They did not take them with the golden one, because taking the coals bruises the instrument and wastes it, and the law is sparing of the riches of Israel.

[16] In order that the high priest might not be fatigued by having to empty from one vessel to another.

[17] Because its sides were thick.

[18] Because its sides were thin.

[19] In order that the arm of the high priest might be helped by it.

[20] It was of that kind of gold called *zahab parvim*, זהב פרוים, because it resembled [in colour] the blood of bulls *parim*, פרים.

[21] Half a *maneh*.

[22] As it is written (Levit. xvi, 12), "and his hands full of sweet incense

5. On every *other* day the priest went up on the east of the ascent[23] *to the altar*, and went down on the west, and on this day the high priest[24] went up in the middle and down in the middle. Rabbi Judah said "the high priest always went up in the middle and went down in the middle." On every *other* day, the high priest sanctified [washed] his hands and his feet from the laver, and on this day from the golden pitcher. Rabbi Judah said "the high priest always sanctified his hands and feet from the golden pitcher."

6. On every *other* day there were four piles there,[25] and on this day five: the words of Rabbi Meyer. Rabbi Jose said "on every *other* day three,[26] and on this day four." Rabbi Judah said on every *other* day two,[27] and on this day three.

beaten small." And what does this teach us? That it is said before (Exod. xxx, 36) "and thou shalt beat some of it very small," only to tell thee that the incense of the day of atonement should be as fine as possible.

[23] As Mar said, "every turn that thou makest must be only to the right hand," which is the east (Yoma 17 b), for the ascent to the altar was on the south, and therefore they went up on the east of it, in order to turn to the right.

[24] On account of his honour, to show his dignity, that he was as a son of the house and might go in whatever place he wished, which the other priests had not the right to do.

[25] On the outer altar were four מערכות (arrangements—piles) of wood upon which they lighted the fires; one large pile, on which they offered the continual sacrifice: a second pile from which they took fire for the altar of incense; and one pile for keeping up the fire, that fire should never fail there; and one pile for the members and fat of the continual sacrifice of the evening which had not been consumed in the evening, and were not burned during the night, which they burned upon this pile. And on the day of atonement they added another pile from which to take coals for the incense before and within the vail.

[26] For three passages are written (Levit. vi, 9), "because of the burning upon the altar all night until the morning," this was the great pile: and the fire of the altar shall be burning in it:" this was the second pile for the incense; and (v, 12) "and the fire upon the altar shall be burning in it, it shall not be put out:" this was the third pile for keeping up the fire. And Rabbi Jose did not hold that there was a fourth fire for the members and fat which had not been consumed, but thought that the members and fat which had not been consumed were burned by the side of the great pile.

[27] Rabbi Jehudah did not hold that there was a third pile for keeping up the fire; and the third scripture, "and the fire shall be burning upon it, it shall not be put out," he explained to mean that he who set on fire little fragments of wood in order to light the great pile did not set fire to them upon the pavement, and go up to the altar with them burning, but lighted them upon the top of the altar. The decision was according to Rabbi Jose.

CHAPTER V.

1. They brought out[1] to him the *kaf* [spoon, A.V.] and the censer, and he took his hands full of *incense* and put it into the *kaf*. If his hand was large, the handful was large, if small, the handful was small, and thus was its measure.[2] He took the censer in his right hand,[3] and the *kaf* in his left hand, and went in the holy place[4] [הֵיכָל] until he came to *the space* between the two vails which divided between the holy place and the most holy. *The space* between them *was* a cubit. Rabbi Jose said "there was only one vail there, as is said (Exodus xxvi, 33), 'and the vail shall divide unto you between the holy *place* and the most holy.'" The outer one was hooked up[5] from the south[6] *side*, and the inner one from the north[7] *side*. He went between them until he came to the north[8] *side*, he turned his face to the south, and went to his left with the vail[9] until he came to the ark.[10] When he came to the ark he put the censer between the two staves, heaped up the incense upon the coals, and the whole house became filled with smoke. He went out in the same way and

[1] From the chamber of the vessels.

[2] As was the mode of measurement without the most holy places, so was the mode of measurement within. As without he took it by handfuls and not by a vessel, so also within, when he emptied the incense from the *kaf* into his hand, he did not empty by means of a vessel made according to the measure of his hand, but into his hand itself.

[3] Because it was heavy and hot, and the *kaf* of incense lighter than it, he took the censer in his right hand and the *kaf* in his left.

[4] He entered and went in the interior of the Temple towards the west to between the two vails. Because they doubted in the second house whether the wall which divided between the holy place and the most holy, which was in the first house and was a cubit thick, was holy, as within the veil or as without the vail, therefore they made two vails, an outer and an inner, and between them a space of a cubit to receive between them the space of the partition wall.

[5] The Rabbis who say this dispute with R. Jose about it, and say that, "and the vail shall divide unto you" refers to the tabernacle only [not to the Temple].

[6] The end was folded towards the outer side and held by a golden clasp, so as to be open on the south.

[7] He entered where it was hooked up on the south, and went between them until he came to where it was hooked up on the north.

[8] When he entered into the most holy place he turned his face towards the south, in order to go as far as the space between the staves, which was in the middle of the chamber. For the staves were long, and reached as far as the vail, one end being towards the west, and the other towards the east, and one was at the northern end of the ark, and the other at its southern end.

[9] As he was going from north to south his left side was towards the east, and the vail being on the east, his left side was "with the vail."

[10] To the place of the ark and not the ark itself, for in the second house there was no ark.

place[11] as he entered, and prayed a short prayer[12] in the outer house.[13] He did not prolong his prayer lest the people should be anxious about him.[14]

2. After the ark was removed a stone was there from the time of the former prophets, and it was called *sheteyah*,[15] foundation. It was three fingerbreadths high above the ground, and upon it he put the *censer*.

3. He took the blood from him who had been stirring it, entered to the place where he had *before* entered,[16] and stood in the place where he had *before* stood,[17] and sprinkled from it once above and seven times below. He did not intentionally sprinkle either above or below,[18] but sprinkled like a person striking.[19] And thus he counted :—one ; one and one ;[20] one and two ; one and three ; one and four ; one and five ; one and six ; one and seven. He went out and put it upon a golden stand which was in the Temple.

4. They brought to him the goat. He slaughtered it and received its blood in the sprinkling-basin. He entered to the place where he had *before* entered, and stood in the place where he had *before* stood, and sprinkled from it once above and seven times below. And he did not intentionally sprinkle either above or below, but *sprinkled* like a person striking. And thus he counted :—one ; one and one ; one and two, &c. He went out and put it upon the second stand that

[11] He did not turn his face to go out, but went out backwards with his face towards the ark.

[12] This was the prayer, "May it be Thy will, O Lord God, that if this year be hot, it may be rainy ; and let not the exercise of dominion pass from the house of Judah ; and let it not be necessary for Thy people Israel to be fed the one by the other [*i.e.*, by charity], or by another people ; and let not the prayer of travellers enter before Thee." (Gloss, because they pray that rain may not fall.)

[13] In the holy place, כיהל.

[14] Lest they should say, "he is dead."

[15] Because from it the world was founded, נשתת ; from it the Holy One, blessed be He, founded the world. שתיה, *sheteyah*, is "foundation."

[16] The holy of holies.

[17] Between the staves.

[18] That there should be one sprinkling above on the upper border of the mercy seat, and the seven below upon the body of the ark ; for the blood did not touch the mercy seat, but fell upon the ground.

[19] He sprinkled like a person inflicting blows [upon the back], who begins between the shoulders and goes downwards. Thus he endeavoured that these eight sprinklings should be upon the ground in order, one under the other.

[20] In order that he might not count the first sprinkling which was above by itself with all the seven which were below. Sometimes he might make a mistake and count the first sprinkling with the seven, and at the first sprinkling below count two. And it does not say that he should count the sprinkling which was above with the seven which were below, and reckon as far as eight. It is intended to say that the command is to finish the sprinklings which were below within seven, and not within eight.

was in the Temple. Rabbi Judah said, "there was only one stand there." He took the blood of the bullock and put the blood of the goat[21] *where it had stood*, and sprinkled from it upon the vail,[22] which was opposite to the ark on the outer side, once above and seven times below. And he did not intentionally, &c. And thus he counted, &c. He took the blood of the goat and put the blood of the bullock[23] *where it had stood*, and sprinkled from it upon the vail which was opposite to the ark on the outer side, once above and seven times below, &c. He poured the blood of the bullock into the blood of the goat, and put the full *vessel* into the empty *one*.[24]

5. He now went out to the altar which was before the Lord, that is, the golden altar, and began to purify it from above downwards.[25] From where did he begin? From the north-eastern corner, the north-western, the south-western, the south-eastern: the place where he began with a sin-offering on the outer altar was that where he finished with the inner altar. Rabbi Eliezer said, "he stood in his place and purified, and upon all *the corners* he put *the blood* from below upwards, except that one which was before him, upon which he put the blood from above downwards."

6. He sprinkled upon the clean *surface* of the altar seven times,[26] and

[21] He agrees with the words of R. Judah, who said that there was only one stand there, and it was necessary to take away the blood of the bullock first in order to put the blood of the goat upon the stand upon which the blood of the bullock had been. The decision was not according to Rabbi Judah.

[22] As it is written (Levit. xvi, 16), "and so shall he do for the tabernacle of the congregation."

[23] As it is written in reference to putting the blood upon the altar (Levit. xvi, 18), "and shall take of the blood of the bullock, and of the blood of the goat;" of the blood of both of them together.

[24] Again he poured the full sprinkling-basin into the empty one, in order that the bloods might be thoroughly mixed.

[25] This doctor thought that the priest walked to each corner in succession, and that each sprinkling was upon the corner which was before him, and near to him, and therefore took מהטא ויורד, "he purified from above downwards," to mean that he made the sprinkling from above to below; for if he should sprinkle from below upwards at the corner which was before him, the blood might flow down into the middle of his hand, and soil his clothes. And Rabbi Eliezer thought that the priest stood at one corner, and from there made the sprinklings upon all the corners; for the whole altar was only a cubit square, and since three of the corners were not near to him, he could put the blood upon them from below upwards without soiling his clothes, except that corner near which he was standing, for he could not turn the tips of his fingers downwards but upwards; for if he should turn the tips of his fingers downwards and make the sprinkling from below upwards, the blood would flow down into the sleeve of his shirt. The decision was not according to Rabbi Eliezer.

[26] After he had completed all the sprinklings of the corners, he sprinkled upon it seven times, as it is written (Levit. xvi, 19), "and he shall sprinkle of the blood upon it." טהרו, "the clean surface," was the uncovered space upon the altar,

the remainder of the blood he poured upon the western foundation of the outer altar,[27] and *the blood* of the outer altar he poured upon the southern foundation. Both[28] became mingled in the canal and went out to the Kedron valley, and were sold to the gardeners[29] for manure. And they rendered themselves guilty of false dealing in reference to it.[30]

7. All the work of the day of atonement[31] which is prescribed in order,[32] if he *wrongly* made one part to precede its fellow, it was as if he had not performed it at all [literally, as if he had done nothing]. *For example:*— if the blood of the goat preceded the blood of the bullock, he must return and sprinkle of the blood of the goat after the blood of the bullock: if the blood was poured out before he had completed the sprinklings which were within the *holy of holies* he must bring other blood and return and sprinkle afresh within the *holy of holies*, and likewise in the holy place,[33] and on the golden altar, because all the sprinklings made their own particular atonement.[34] Rabbi Eleazer and Rabbi Simeon said, "he began again from the place[35] where he had broken off."

for he turned the ashes and coals to either side, and sprinkled upon the gold of the altar.

27 The remainder of the blood of the outer sin-offerings was poured upon the southern foundation.

28 The outer and the inner bloods [*i.e.*, the blood sprinkled upon the outer altar, and that sprinkled upon the inner altar] which were poured upon the altar of burnt-offering flowed down and fell from the foundation [of the altar] to the pavement [of the court] and became mingled in the canal—the conduit in the court which went out to the Kedron valley.

29 The owners of gardens.

30 It was unlawful to make use of it before the price had been paid.

31 All the services which he performed in the white garments in the holy of holies and in the holy place.

32 In our mishna.

33 וכן בהיכל. If he had made a part of the sprinklings upon the vail, and the blood was poured out, he must bring another bullock and begin again the sprinklings upon the vail, but it was not necessary to begin again within the holy of holies.

34 Therefore the atonement that was completed was completed.

35 And although that particular atonement was not complete, it was not necessary to return and do what he had already done. The decision was not according to Rabbi Eleazer and Rabbi Simeon.

HARRISON AND SONS, PRINTERS IN ORDINARY TO HER MAJESTY, ST. MARTIN'S LANE, LONDON.

LIST OF DONATIONS AND SUBSCRIPTIONS.

FROM SEPTEMBER 26TH TO DECEMBER 12TH, 1884, INCLUSIVE.

a denotes Annual Subscriber.

*** If any omission or mistake be observed in the following lists, the Secretary will be very glad to be informed of it, and will rectify the error in the next *Quarterly Statement.*

	£	*s.*	*d.*
Rev. Dr. Adler	0	10	0
W. H. Adams, Esq.	1	1	0
Miss Alford.	1	0	0
Rev. W. Armstrong	0	10	6
R. P. Andrews, Esq.	1	0	0
Mrs. Anderson	3	3	0
Bishop of Antigua	1	1	0
Mrs. Bowles	0	10	0
Mrs. Browne	0	10	6
W. Beamont, Esq. (1883–84)	2	0	0
Rev. E. Bittleston	0	10	6
Mrs. Bown	1	1	0
J. Bury, Esq. (1883–84) ..	2	2	0
Mrs. Birchall	1	1	0
Rev. C. W. Barclay	0	10	0
Rev. J. G. Bourne	1	1	0
J. Benham, Esq.	1	1	0
R. Beck, Esq.	1	1	0
R. Blackie, Esq.	1	1	0
Rev. H. Bothamley	1	1	0
R. Bealey, Esq.	1	0	0
Rev. J. J. Burton	1	1	0
John Barclay, Esq.	1	1	0
J. A. Brooke, Esq.	2	2	0
— Butler	1	1	0
Dr. H. Berend..	0	10	6
Cyrus Braby, Esq. (1883–84)	1	1	0
Rev. F. Beaumont	1	1	0
Rev. C. Block	0	10	6
Miss Isabella Black	1	1	0
Rev. G. Bellis..	0	10	6
Thos. Barclay, Esq.	1	1	0
Rev. J. Browell	1	1	0
Rev. E. F. Campbell	0	10	6
Mrs. Cruikshank	1	0	0
Rev. H. S. Callander.. ..	0	10	0
Rev. H. Caddel	1	1	0
John Cock, Esq.	1	0	0
Sir John Coode	1	1	0
Miss Capel	0	10	6
Carried forward	£40	10	0

	£	*s.*	*d.*
Brought forward	40	10	0
Rev. C. G. Chittenden ..	1	1	0
Gen. Sir A. Cotton	0	10	6
W. Church, Esq.	0	10	6
Rev. A. Cornford	0	10	6
W. Cash, Esq...	0	10	6
Miss Clay	1	1	0
J. Caudwell, Esq.	0	10	6
Rev. R. Champernowne ..	1	1	0
M. W. Clark, Esq.	0	10	6
C. C. Cox, Esq.	1	1	0
Rev. A. J. T. Cachemaille ..	0	10	6
J. Corry, Esq...	1	1	0
H. Cator, Esq...	1	0	0
J. F. Cobb, Esq.	0	10	6
Rev. W. O. Clinton	1	0	0
C. E. Gordon Crawford, Esq.	2	0	0
Rev. W. B. Caparn	0	10	0
Major Clark	1	1	0
Mrs. Davies	2	0	0
Mrs. Dunbar	1	1	0
J. Evans, Esq...	2	2	0
Rev. Prof. Ellis Edwards ..	0	10	6
W. Q. Ewart, Esq.	1	0	0
Rev. J. Emeris	1	0	0
Rev. M. S. Edgell	0	10	6
Rev. Preb. Eddrupp	0	10	6
Rev. W. J. Edwards	1	1	0
W. Ewart, Esq.	1	0	0
John Fair, Esq.	0	10	6
P. Forbes, Esq.	2	2	0
Mrs. Fremlin	2	0	0
Rev. A. Furneaux	1	1	0
C. F. Fellowes, Esq.	5	0	0
W. D. Fane, Esq.	2	0	0
W. Ferguson, Esq.	1	1	0
Col. Fenning	1	1	0
Miss Forster	1	1	0
A. Fothergill, Esq.	0	10	6
J. Flint, Esq...	0	10	6
Carried forward	£83	3	0

	£	s.	d.
Brought forward	83	3	0
Lewis Fry	2	2	0
Miss Frith	0	10	6
Rev. T. H. Frere	2	2	0
Rev. G. Goldberg	0	10	6
Mrs. Goldberg	0	10	6
Mrs. Gorham	0	10	0
E. W. Gere, Esq.	0	10	6
Sir F. Goldsmid (1883-84) ..	2	2	0
Rev. A. B. Grimaldi	0	10	0
J. J. Greaves, Esq.	1	1	0
T. Grant, Esq. (1883-84) ..	2	2	0
James Gwyther, Esq. ..	0	10	6
Rev. E. J. Gregory	0	10	6
James Gebbie, Esq.	0	10	6
R. Govett, Esq.	1	0	0
Rev. C. D. Ginsburg	1	0	0
Major Gardiner	1	1	0
Prof. Lucien Gautier	0	10	6
Miss Gotto	0	10	6
Rev. T. Grant	0	10	6
T. George, Esq.	0	10	0
Capt. R. M. Gillson	1	0	6
Mrs. Guise	1	0	0
Rev. Canon Garratt	2	2	0
Rev. W. G. Greenstreet ..	1	1	0
Rev. G. R. Green	1	1	0
J. V. Gregory, Esq.	0	10	6
Mrs. Gubbins	0	10	6
W. L. Grant, Esq.	0	10	6
Rev. A. G. Girdleston ..	0	10	6
Rev. Canon Hoare	0	10	6
Rev. W. L. Hardisty ..	1	1	0
Miss Harrison	1	1	0
J. Howarth, Esq.	0	10	6
W. Hobbs, Esq.	1	1	0
Miss A. Hodgson	0	10	0
J. T. Harris, Esq.	2	2	0
Mrs. Hardinge	1	0	0
Rev. W. J. Heale	1	1	0
Rev. G. Horner	2	2	0
Miss Harris	0	10	6
Rev. Canon Hopkins	0	10	6
J. Hollings, Esq.	1	1	0
A. Hine, Esq.	0	10	6
Rev. T Helmore	1	0	0
Mrs. Hutchinson	1	1	0
Mrs. Hughes	1	1	0
G. Henry, Esq.	0	10	6
W. Henderson, Esq.	0	10	6
A. Hodgetts, Esq.	1	1	0
Rev. C. B. Hue	2	2	0
Rev. W. E. Heygate (1883-84)	1	0	0
T. J. Hankinson, Esq. ..	1	1	0
A. H. Hamilton, Esq.	0	5	0
Rev. Canon Badcock	1	1	0
Carried forward	£134	18	6

	£	s.	d.
Brought forward	134	18	6
Prof. Hudleston (for Geological Survey)	5	0	0
Rev. J. R. Hewitson	0	10	6
Rev. L. G. Hassé	0	10	6
H. S. Hird, Esq.	0	10	6
J. Holden, Esq.	2	2	0
Ven. Archdeacon Iles	0	10	6
F. Jones, Esq.	0	10	0
Mrs. Jenings	1	0	0
N. S. Joseph, Esq. (1883-84)	2	2	0
Rev. J. F. Jeffcock (1883-84)	2	2	0
Rev. W. R. Jones	0	10	6
A. W. Jones, Esq.	5	0	0
Rev. W. Johnson	0	10	6
F. W. Hitchen Kempe, Esq. ..	2	2	0
Rev. J. Kitchen	0	10	6
Robert Kerr, Esq.	1	1	0
Herr Khituro	1	2	6
Mrs. B. Kinnear	1	1	0
Miss Leach	0	10	0
Rev. W. B. Lowther	0	10	6
Sydney Lawrence, Esq. ..	1	1	0
Hon. and Rev. A. Legge ..	1	1	0
Rev. Canon Lee	1	1	0
J. D. Lamb, Esq.	1	1	0
C. J. Lacy, Esq.	0	10	6
Rev. G. B. Lewis	0	10	6
W. MacArthur, Esq.	1	1	0
Rev. W. D. Moffatt	0	10	6
Miss Rose Muspratt	0	10	6
Miss Macaulay	0	10	6
Mrs. Morris	0	10	6
R. B. Mummery, Esq. ..	0	10	0
J. Mordy, Esq.	0	10	0
Miss Meighen	0	3	6
R. Mortan Middleton, Esq. ..	0	10	6
Rev. J. Martin	1	1	0
R. M. Miller, Esq. (1883-84)	1	1	0
Gen. Maitland	2	2	0
W. W. Morrell, Esq.	0	10	6
W. Mattalien, Esq. (1883-84)	1	1	0
Captain Moody	1	0	0
Rev. Dr. Moulton (1883-84)	2	2	0
Rev. Canon Musgrave ..	0	10	0
Miss Niel	0	10	6
Miss Newland	1	1	0
J. Newton, Esq.	0	10	6
Rev. J. Ormiston	0	10	6
P. R. Overton, Esq.	0	10	6
W. H. Owen, Esq.	1	1	0
Rev. D. Paul	1	1	0
E. Parkinson, Esq.	1	0	0
Mrs. Perry	2	0	0
E. Pewtress, Esq.	2	2	0
J. Priestley, Esq.	0	10	6
Carried forward	£193	2	0

LIST OF SUBSCRIPTIONS.

	£	s.	d.
Brought forward	193	2	0
Rev. C. H. Prance (1883–84)	4	4	0
Rev. J. Rowlands	1	1	0
F. Ridoutt, Esq.	0	10	6
Rev. G. S. Rowe	1	1	0
J. A. Rolls, Esq.	1	1	0
Rev. C. L. Reynolds	1	1	0
Marshall Reed, Esq.	0	10	6
Dr. Reynolds	0	10	6
Miss Rickman..	2	0	0
Mrs. Ring	0	10	6
Rev. P. De Rivière	0	5	0
Rev. W. H. Sewell	0	10	0
Mark Stirrup, Esq.	0	10	6
W. J. Standring, Esq. ..	4	4	0
Rev. J. E. Smyth	2	2	0
J. Sterry, Esq...	1	1	0
Rev. C. S. Scott	0	10	6
C. Samuel, Esq.	1	1	0
H. G. Murray Stewart, Esq...	2	2	0
F. J. Stevens, Esq.	0	10	6
Rev. T. Stephens	0	10	6
G. Shrewsbury, Esq... ..	0	10	0
F. Sulley, Esq.	1	1	0
F. R. Shaw, Esq.	1	1	0
Miss Stephens..	0	10	0
St. Bees College	1	1	0
A. Trigg, Esq.	0	13	0
J. Thompson, Esq.	1	1	0
Mrs. Thrupp	1	1	0
J. W. L. Taylor, Esq... ..	1	0	0
Rev. J. Taylor	1	1	0
Carried forward	£227	18	0

	£	s.	d.
Brought forward	227	18	0
Rev. R. A. Tindall	0	10	6
Sir Chas. Trevelyan	1	1	0
Miss Townsend	0	10	6
The Vice-Chancellor, Cambridge	0	10	6
Gen. Sir R. Wilbraham ..	1	1	0
J. E. Wakefield, Esq... ..	1	1	0
V. A. Williamson, Esq. ..	1	1	0
Rev. H. H. Westmore, Esq..	1	1	0
Rev. R. G. Walker	0	10	6
Miss Walker	1	1	0
A. J. Weld, Esq.	0	10	6
F. A. White, Esq.	1	0	0
W. Walker, Esq.	1	1	0
Rev. G. S. Whittock	1	0	0
S. Woolf, Esq.	1	1	0
D. M. Watson, Esq.	1	1	0
W. Woodall, Esq.	1	1	0
J. H. Weldon, Esq.	1	0	0
Rev. T. Woodruff	2	2	0
Rev. F. M. Wyndham ..	1	0	0
J. R. Wigham, Esq.	1	1	0
J. Hornby Wright, Esq. ..	1	1	0
T. E. Waddingham, Esq. ..	4	4	0
A. Westwood, Esq.	0	10	0
Rev. J. Wigham	0	10	6
Miss Watson	0	10	0
A. J. Woodhouse, Esq. ..	2	2	0
Col. Ward	1	1	0
Rev. J. O. West	0	10	6
Total	£258	12	6

SUMMARY.

	£	s.	d.
Subscriptions and Donations	258	12	6
Local Societies	146	15	0
From Lectures	31	0	0
Maps, Memoirs, and Books	220	1	9
	£656	9	3

Omitted from its place—German Palestine Society .. 0 10 6

LOCAL SOCIETIES.

(Acknowledged in detail under special heading).

	£	s.	d.
Aberdeen	10	8	0
Bath	1	1	0
Belfast	0	10	6
Brighton	10	5	0
Bristol and Clifton	8	15	0
Castle Bellingham (Ireland)	6	1	10
Chelmsford	9	2	6
Cheltenham	23	10	9
Chichester	1	3	6
Cork	11	0	0
Frome	8	19	0
Lichfield	1	5	0
Manchester	37	0	0
Plymouth	6	2	11
St. Leonards	4	4	0
Sydney	4	3	0
Whitby	1	1	0
Winchester	2	2	0
	£146	15	0

ABERDEEN LADIES' ASSOCIATION.

Dec. 15, 1884.—By cash .. .. £10 8*s.*

	£	s.	d.
Miss Fenwick Bisset, 11, Albyn Terrace	2	0	0
M.	0	2	6
Rev. Prof. Forbes, D.D., 3, Westfield Terrace	0	10	0
Mrs. Garden, Woodthorpe Murtle	0	10	0
Colonel Kirby, 15, Dee Street	1	1	0
James Stephen, R.N., 155, Crown Street	0	10	0
David Mitchell, Esq., 24, Adelphi	0	10	6
S. J. Mitchell, Esq., 24, Adelphi	0	2	6
David Allan, Esq., Union Street	0	10	6
Mr. and Mrs. Simpson, 8, Golden Square	0	10	6
Robert Lumsden, Esq., Ferryhill House	0	10	6
Miss Spence, 2, Castle Hill	0	10	6
Mrs. Duthie, 20, Albyn Place	0	10	0
William Hunter, Esq., 14, Adelphi	0	10	6
Miss Gordon, 35, Albyn Place	0	5	0
Rev. James Selkirk, 5, Westfield Terrace	0	10	6
Rev. Prof. Mulligan, D.D., University, Old Aberdeen	0	10	6
Mrs. Maclure, 18, Rubislaw Terrace	0	10	0
Rev. John Calder, New Manse, Old Aberdeen	0	10	6

BATH.

Nov. 10.—By cash .. .. £1 1*s.*

	£	s.	d.
Rev. Canon Brooke	1	1	0

LIST OF SUBSCRIPTIONS.

BELFAST.

Dec. 4.—By cash	10*s.* 6*d.*
	£ *s.* *d.*
W. F. S. Corry, Esq.	0 10 6

BRIGHTON.

Dec. 22.—By cash	£10 5*s.*
	£ *s.* *d.*
Miss Carr	1 1 0
N. Turnbull, Esq.	1 1 6
Miss Cobham	1 1 0
Mademoiselle de Paris	1 1 0
Miss M. Ridding	5 0 0
Venerable Archdeacon Hannah	1 1 0

BRISTOL AND CLIFTON.

Nov. 4.—By cash	£8 15*s.*
	£ *s.* ⌊*d.*
Lord Rollo, Wilmington, Ryde, I.W.	1 0 0
Rev. C. H. Wallace, 3, Harley Place, Clifton	1 0 0
W. F. Lavington, Esq., 107, Pembroke Road, Clifton, Bristol	1 1 0
Miss Russell, Guilford Villa, Pembroke Road	1 0 0
Miss Moor, Cossington Villa	1 0 0
C. W. Bird, Esq., Woodcote, Tyndal's Park	0 10 6
Miss Windsor Richards, 12, Princes Buildings, Clifton	0 10 0
Thomas Howard, Esq., Bryn-y-Mor, Weston-super-Mare	0 10 6
Rev. R. W. Raban, 16, Apsley Road, Clifton	0 10 6
Mrs. Thompson, Clifton	0 10 0
The Misses Mills, Frederick Place	0 10 6
Miss Ware, Penavon	0 5 0
Rev. Canon Mather, St. Paul's Lodge	0 5 0
Miss Douglas, 5, Gloucester Row..	0 5 0
Rev. J. H. Clark, 66, Pembroke Road	0 5

CASTLE BELLINGHAM (IRELAND.)

Nov. 18.—By cash..	£6 1*s.* 10*d.*
	£ *s.* *d.*
Lady Bellingham	0 10 0
T. R. Garstin, Esq.	1 0 0
Rev. Richard Quin..	0 10 0
Dowager Lady Rathdonnell	1 0 0
Rev. Canon Shaw	1 0 0
Mrs. Smith	0 10 6
Collection at Drawing-Room Meeting at Drumcar ..	1 18 0
Collection at Drawing-Room Meeting at Castle Bellingham	0 6 4

LIST OF SUBSCRIPTIONS.

CHELMSFORD.

Nov. 10, 1884.—By cash .. .. £9 2*s.* 6*d.*

	£	*s.*	*d.*
Miss Straight	0	5	0
Miss Seabrook	0	10	6
Rev. H. F. Johnson	0	10	6
— Codd, Esq.	1	1	0
— Elwell, Esq.	0	10	6
Mr. Coleman	1	1	0
Mr. J. S. Reeve	0	10	6
Miss Mark	0	10	6
Ditto Collecting Card	0	10	0
W. Perry, Esq.	2	2	0
W. Holgate, Esq.	1	1	0
Mr. R. H. Crabb	1	1	0

CHELTENHAM.

Nov. 24.—By cash.. .. .. £23 10*s* 9*d.*

1883.

	£	*s.*	*d.*
Miss Birchall	1	1	0
Rev F. Poynder	0	10	0
	£1	11	6

1884.

	£	*s.*	*d.*
Dr. Thorp	1	1	0
Sir Brook Kay, Bart. (don.)	3	3	0
Earl of Ducie	5	0	0
Rev. J. Cardew	1	0	0
Dr. E. T. Wilson	0	10	0
Rev. T. Cardew (don.)	1	0	0
Rev. W. Hutchinson	0	10	6
W. H. Gwinnett, Esq.	1	1	0
C. Dobell, Esq.	1	1	0
Miss Ward	0	10	0
The Misses Robinson	0	5	0
Miss Stokes	0	10	0
John Walker, Esq.	1	1	0
Mr. Litton	1	1	0
Rev. Canon Bell	1	1	0
J. Middleton, Esq.	0	10	0
Rev. F. Poynder	0	10	6
Rev. Dr. McCullock	0	10	6
Mrs. Wakefield	1	1	0
Rev. R. Chamney	1	1	0

LIST OF SUBSCRIPTIONS.

CHICHESTER.

Dec. 5.—By cash .. .. £1 3*s.* 6*d.*

	£	*s.*	*d.*
Mrs. Campbell	0	10	6
Mrs. B. Pigott	0	10	6
Miss Elliott	0	2	6

COUNTY AND CITY OF CORK.

Oct. 30.—By cash £11

	£	*s.*	*d.*
O'Donovan	2	0	0
Rev. Horace T. Fleming	0	10	0
Mrs. Hunt	1	0	0
Miss Hunt	1	0	0
Mrs. Maunsell	1	0	0
Mr. Pigott	1	0	0
Henry S. Perry, Esq. (Hon. Sec.)	1	0	0
Captain Perry	1	0	0
Mr. J. Seymour Romilly	0	10	0
Miss Perry Shears	1	0	0
Miss Reeves	1	0	0

FROME.

Nov. 28.—By cash .. .. £8 19*s.*

	£	*s.*	*d.*
F. C. Cockey, Esq.	0	5	0
H. Cockey, Esq.	0	10	6
G. A. Daniel, Esq.	0	10	6
Rev. W. E. Daniel	0	10	6
E. Flatman, Esq.	0	10	0
Rev. J. Horton	0	10	6
Mr. Holroyd	1	0	0
H. C. Houston, Esq.	0	10	6
Mrs. Le Gros	0	10	6
C. W. Le Gros, Esq.	0	5	0
Mrs. Parsons	0	2	6
Miss Sewell	0	10	6
J. Tanner, Esq.	1	1	0
H. Thompson, Esq.	0	10	6
Miss Thompson	0	10	6
Mr. Tonkin	0	10	6
J. W. D. T. Wickham, Esq.	0	10	6

LIST OF SUBSCRIPTIONS.

MANCHESTER.

	£	s.	d.
Oct. 3.—By cheque	2	2	0
„ 9.— „	5	15	6
Dec. 27.— „	4	14	6
Nov. 11.— „	7	5	6
„ 16.— „	4	14	6
„ 16.— „	10	16	6
„ 19.— „	1	11	6
	£37	0	0
Remitted previously	34	13	0
Total for 1884 to December 19	£71	13	0

	£	s.	d.
*a*Rev. W. Laycock	0	10	6
*a*G. Gauthorp, Esq.	0	10	6
*a*Joseph Yates, Esq.	1	1	0
*a*Rev. A. E. Robinson	1	1	0
*a*James Heelis, Esq.	1	1	0
*a*J. R. Barlow, Esq.	0	10	6
*a*J. A. Eastwood, Esq.	0	10	6
*a*C. G. Rockwood, Esq. ..	0	10	6
*a*Richard Taylor, Esq.	1	1	0
*a*Principal Greenwood	1	1	0
*a*J. W. Keeling, Esq.	1	1	0
*a*Rev. T. H. Guest	0	10	6
*a*J. B. Lee, Esq.	0	10	6
*a*John Napier, Esq.	1	1	0
*a*Rev. Canon J. Davenport Kelly	0	10	6
*a*Rev. E. C. Hore	0	10	6
*a*Rev. A. Haworth	0	10	6
*a*Rev. J. Chippendale	1	1	0
*a*Mrs. Ryder Richardson ..	1	1	0
*a*Rev. G. Burwell	1	1	0
*a*Rev. H. D. Rawnsley	0	10	0

	£	s.	d.
*a*Rev. J. W. Consterdine ..	0	10	6
*a*John Grafton, Esq.	1	1	0
*a*Joseph Rice, Esq.	1	1	0
*a*Rev. A. McLaren, D.D. ..	1	1	0
*a*Rev. W. H. Rogers, D.D. ..	1	1	0
Henry Lowe, Esq.	1	1	0
*a*J. A. Beith, Esq.	1	1	0
*a*Rev. Canon Stowell	0	10	6
*a*Thomas Hargreaves, Esq. ..	0	10	6
*a*Jabez Johnson, Esq.	1	1	0
*a*Rev. G. W. Reynolds ..	0	10	6
*a*James Parlane, Esq.	1	1	0
*a*R. Milne Redhead, Esq. (two years)	4	0	0
*a*Oliver Heywood, Esq. ..	2	2	0
*a*C. J. Heywood, Esq.	1	1	0
*a*Rev. Canon Tonge	0	10	6
*a*Ven. Archdeacon Anson ..	1	1	0
*a*Misses Sharp	1	1	0
*a*Rev. T. N. Farthing	0	10	6

PLYMOUTH.

Dec. 23.—By cash .. .. £3 3*s*.

	£	s.	d.
Captain Inskip, R.N.	0	10	6
E. James, Esq.	0	10	6
Miss Bragge	0	10	6
H. Greenway, Esq.	0	10	6
J. N. Bennett, Esq.	0	10	6
John Shelly, Esq.	0	10	6

LIST OF SUBSCRIPTIONS.

PLYMOUTH.

Oct. 6.—By cash £2 19*s.* 11*d*

	£	*s.*	*d.*
Mr. W. W. Anthony	0	2	6
Mrs. Guswell	0	2	6
Mr. W. J. White	0	2	6
Mr. Thos. Goard	0	5	0
Mr. W. Short	0	2	0
Mr. H. A. Woodhouse	0	5	0
Mrs. H. A. Woodhouse	0	5	0
Mr. William King	0	2	6
Mr. Thos. Pitts, jun.	0	5	0
Mr. Wm. Angear	0	5	0
Mr. W. T. Hutchens	0	5	0
Mr. D. McK	0	2	6
Mr. Wm. Babb	0	5	0
Mr. Harkeet..	0	2	6
Miss E. P. Martin	0	2	0
"Unclaimed Balances"	0	5	11

ST. LEONARDS.

Nov. 10.—By cash .. .. £4 4*s.*

	£	*s.*	*d.*
Rev. C. R. Howell (1883-84)	2	2	0
Rev. John Back	1	1	0
Miss Back	1	1	0

SYDNEY.

Dec. 3.—By cash.. .. .. £4 3*s.*

	£	*s.*	*d.*
Rev. James Cameron, M.A., Richmond, N.S.W. ..	1	1	0
James Comrie, Esq., Northfield, Kurragong Heights, N.S.W.	1	1	0
John S. Adam, Esq., The Lea, Croydon, N.S.W. ..	1	1	0
Rev. Colin Stewart, M.A., 333, Bourke Street, Sydney..	1	1	0
Rev. R. Steel, D.D., St. Leonards, Sydney	1	1	0

WHITBY.

Oct. 22.—By cash .. .. £1 1*s.*

	£	*s.*	*d.*
John Brewster	1	1	0

LIST OF SUBSCRIPTIONS.

WINCHESTER.

	£	s.	d.
Dec. 12.—By cash	£2	2s.	
Mrs. Walsh	1	1	0
Miss Harden	0	10	6
Rev. G. Richardson	0	10	6

LECTURES BY REV. HENRY GEARY, M.A.

(*Omitted in June Quarterly Statement.*)

	£	s.	d.
May 15.—Christ's Hospital	10	10	0
Nov. 14.—Uxbridge (two lectures)	10	0	6
„ 20.—Acton	8	8	3
„ 28.—Dorking (two lectures)	16	15	9
Dec. 5.—Winchester (two lectures)	17	17	6
„ 7 and 11.—Willesden (sermon and lecture) ..	4	0	0

LECTURES BY REV. JAMES NEIL.

Dec. 12.—By cash	30	0	0

(*Details will be published in April.*)

ERRATA.

October Number.—*For* W. Collins, *read* B. H. Collins.
[redacted] „ —*For* Miss Brownhead, *read* Miss Bromehead.
April, 1883.—*For* Miss Bown, *read* Mrs. Bown.

LIST OF DONATIONS AND SUBSCRIPTIONS.

FROM DECEMBER 12TH, 1884, TO MARCH 12TH, 1885, INCLUSIVE.

a denotes Annual Subscriber.

*** If any omission or mistake be observed in the following lists, the Secretary will be very glad to be informed of it, and will rectify the error in the next *Quarterly Statement*.

	£	s.	d.
*a*Rev. J. D. Addison	0	10	0
*a*G. Aimer, Esq.	0	10	6
*a*T. S. Aldis, Esq.	1	1	0
*a*C. S. Alexander, Esq ..	1	1	0
*a*H. Alexander, Esq.	1	1	0
*a*Mrs. Allcard	0	10	6
*a*R. G. Allen, Esq.	0	10	6
Mrs. Josiah Allen	0	10	6
*a*S. Allport, Esq.	0	5	0
*a*C. J. Angus, Esq.	0	10	0
Anonymous	0	9	10
Anonymous	0	10	6
Anonymous	0	10	0
W. Appleford, Esq.	1	1	0
*a*Rev. R. Appleton	1	1	0
*a*G. C. Ashmead, Esq... ..	0	10	6
*a*Mrs. Reierson Arbuthnot ..	2	2	0
*a*T. H. Aston, Esq.	0	5	0
*a*Miss Badcock	0	10	6
*a*Rev. W. C. Badger	0	10	6
*a*Rev. G. Bain	0	10	6
*a*Mrs. Bankes	0	10	6
*a*T. Barclay, Esq.	1	1	0
*a*Lady K. R. Barker	1	1	0
*a*Miss F. A. Barstow	0	10	6
*a*Mrs. A. Barwell	1	0	0
*a*R. Baxendall, Esq.	1	1	0
*a*C. Bayne, Esq. (1884–85) ..	2	2	0
*a*Rev. D. A. Beaufort	1	1	0
*a*Miss Beaufort..	1	1	0
*a*G. P. Beley, Esq.	0	10	6
*a*Rev. J. Bell	0	10	6
*a*Rev. W. R. Bell	0	10	6
*a*James Berry, Esq.	1	1	0
*a*Erskine Beveridge, Esq. ..	2	0	0
*a*A. F. Buxton, Esq.	1	1	0
*a*John Bewley, Esq.	1	1	0
*a*W. Beynon, Esq.	0	10	6
*a*G. Bickerton, Esq.	1	0	0
*a*J. Binney, Esq.	1	1	0
*a*Rev. A. J. Binnie	0	10	6
Carried forward	£33	15	10

	£	s.	d.
Brought forward	33	15	10
*a*Rev. E. Bittleston	0	10	6
*a*Mrs. Birkbeck..	1	1	0
*a*F. E. Blackstone, Esq. ..	1	1	0
*a*Miss Blandy	0	10	6
*a*Rev. A. A. Bonar	1	0	0
*a*Rev. A. K. Boustead	0	10	0
*a*John Bowman, Esq.	0	10	6
*a*Mrs. Bowron	0	10	6
*a*Rev. W. Brewster	1	1	0
Miss E. Bridges	5	0	0
*a*Rev. W. G. Bridges	0	10	6
*a*J. S. Broad, Esq. (1884–85) ..	1	1	0
*a*Mrs. Brock	0	10	6
*a*Rev. R. Brown	0	10	6
*a*Miss Brown	0	10	0
*a*J. Brown, Esq.	1	1	0
*a*Rev. C. G. Browne	0	10	6
*a*W. Brown, Esq.	2	0	0
*a*E. Button, Esq.	0	10	6
*a*R. Burlingham, Esq... ..	1	1	0
*a*R. Scott Burn, Esq.	2	2	0
*a*James Burnley, Esq... ..	1	1	0
*a*Rev. H. Caddell	1	1	0
*a*Miss Camidge	1	1	0
*a*Rev. E. Carlyon	0	10	0
*a*Rev. A. Carr	1	1	0
*a*Rev. W. Carr	1	1	0
*a*Mrs. Cash	0	10	6
*a*A. Cates, Esq...	2	2	0
*a*Rev. J. H. Carr	0	10	0
*a*J. Fenn Clark, Esq.	1	1	6
*a*Gen. Clarke	0	10	0
*a*Miss Clendenning	0	10	0
*a*J. Challinor, Esq.	1	1	0
Miss Chamberlain	0	10	0
*a*Rev. G. Christian	1	1	0
Very Rev. Dean Church ..	1	0	0
*a*J. F. Cobb, Esq.	0	10	6
*a*Rev. J. B. Colville	0	10	6
*a*F. M. Corfe, Esq.	1	1	0
Carried forward	£72	11	4

	£	s.	d.
Brought forward	72	11	4
aMiss M. A. Corrie	1	1	0
aMiss G. M. Corrie	1	1	0
aMrs. Corsbie	1	1	0
aGen. Sir A. Cotton	1	0	0
aGen. Cooke	1	0	0
aR. H. Cooke, Esq.	1	1	0
aRev. Canon Coulson	1	1	0
aJ. C. Courthope	1	1	0
aH. Courtier, Esq.	0	10	6
aSir John Cowell	2	0	0
aGen. Cracklow	2	2	0
aR. Crewdson, Esq.	1	1	0
aMrs. Crewdson	1	1	0
aA. Crosbie, Esq.	0	10	6
aRev. Dr. H. Crosbie	1	0	0
aMiss F. M. Cross	0	10	6
aR. Cudworth, Esq.	1	1	0
aJ. Culross, Esq.	0	10	6
aDr. E. Cumming	0	10	6
aJ. A. Dalton, Esq.	0	10	6
aRev. T. Dalton	1	1	0
aJ. H. Dalzell, Esq.	1	1	0
aW. R. Davies, Esq.	1	1	0
aC. Davies, Esq.	1	0	0
aRev. Preb. Davey	0	10	6
aG. Dartnell, Esq.	0	10	6
aMiss Deacon	2	0	0
aH. W. Devenish	0	10	6
aRev. W. W. Dickenson ..	2	2	0
aA. Dodgson, Esq.	0	10	6
aRev. J. D. Dodgson	0	10	6
aR. D. Robinson Douglas, Esq.	1	1	0
aBishop of Dover	1	1	0
aMiss Downward	1	0	0
aMiss Drabwell..	0	10	6
aMrs. Drummond	1	1	0
aE. A. Drummond, Esq. ..	3	3	0
aCapt. Drummond	1	0	0
aMiss Du Buisson	0	10	6
aDr. Duncan	1	1	0
aM. Dutan	1	1	0
aRev. Preb. Eddrup	0	10	6
aT. Eden, Esq...	1	1	0
aRev. M. S. Edgell	0	10	0
aG. T. Edwards, Esq.	0	10	6
aRev. H. T. Ellacombe ..	1	1	0
aMrs. Josiah Evans	2	0	0
aMiss A. Everard	1	1	0
aMiss Ewart	1	1	0
aW. Ewen, Esq.	1	1	0
aRev. T. F. Farrer	5	0	0
aRev. A. R. Faussett	1	1	0
aRev. Dr. Fearon	1	1	0
aRev. G. H. Feilding	0	10	6
aColonel Fenning	1	1	0
Carried forward	£132	1	4

	£	s.	d.
Brought forward	132	1	4
aRev. R. W. Fiske	0	10	0
aR. Foster, Esq.	0	10	0
aRev. A. M. Foster	1	1	0
aRev. T. J. Fowler	1	1	0
aRev. F. H. Freeth	1	1	0
aMrs. Fremlin	2	0	0
aD. W. Freshfield, Esq. ..	1	1	0
aLewis Fry	1	1	0
aA. Fuller, Esq.	0	10	6
aMiss Garnett	1	1	0
aMiss Garrat	1	1	0
aMrs. E. George	0	10	0
aRev. T. J. Goadby	0	10	6
aMrs Goddard..	0	10	0
aA. R. Granville, Esq. ..	0	10	6
aN. E Green, Esq.	0	10	6
aMiss Grover	1	1	0
aRev. W. Newton Guinness ..	0	10	6
aLieut. T. W. Guise	1	0	0
aRev. C. Gutch (1884-85) .	1	1	0
aCapt. R. M'Gillson	1	1	0
aRev. H. H. Halford	0	10	6
aMiss Halton	0	10	6
aGen. Halliday..	1	1	0
aRev. G. Hamilton	1	1	0
aCapt. Hankey..	0	10	6
aT. J. Hankinson, Esq. ..	1	1	0
aMiss C. Hardy	1	0	0
aG. Hardy, Esq.	1	1	0
aMiss Harris	1	1	0
aRev. S. H. Harrison .. .	1	1	0
aMiss Harrison.. .. .	1	1	0
aRev. A. A. Harland	0	10	6
aRev. L. G. Hassè	0	10	6
aRev. R. M. Hawkins.. ..	1	1	0
aT. G. Hawley, Esq.	1	0	0
aRev. S. T. Hawtrey	2	2	0
aRev. Canon Hayhurst ..	1	0	0
aMiss Heath	1	1	0
aRev. A. Henderson	0	13	6
aRev. J Hewetson	1	0	0
aRev. W. E. Heygate	0	10	0
aB. A Heywood. Esq... ..	1	1	0
aA. H. Heywood, Esq.. ..	5	5	0
aE Hill, Esq.	1	0	0
aRev. Melsup Hill	1	1	0
aJ. Hilton, Esq.	3	0	0
aMrs. Hinde	2	2	0
aRev. H. Hall-Houghton ..	10	0	0
aMiss A. Hoare	1	1	0
aS. H. Hodgson, Esq... ..	1	1	0
aRev. C. H. Hole	1	1	0
aMrs. E. T. Holland	0	10	0
aRev. J. F. Hort	2	2	0
aMrs. Huish	1	1	0
Carried forward	£199	15	10

	£	s.	d.
Brought forward	199	15	10
aR. F. Hutchinson, Esq. ..	1	1	0
aDr. Hutchinson	1	1	0
aRev. T. S. Hutchinson ..	1	1	0
aMrs. Hutchinson	1	0	0
aRev. W. Inge	1	1	0
aJ. L. Jardine	1	1	0
aMrs. Johnson	1	1	0
aT. B. Kane, Esq.	0	10	6
aMiss Kelly	0	10	6
aMrs. C. Kemble (1884) ..	1	1	0
aT. J. Kent, Esq.	2	2	0
aR. L. Kirby, Esq.	0	10	6
aCapt. Kitchener	1	0	0
aRev. T. Ladds	1	1	0
aA. Laing, Esq.	0	10	0
aRev. R. Lang	0	10	6
aG. H. Lawrence, Esq. ..	1	1	0
aR. E. Leader, Esq. ..	0	10	6
aH. Leask, Esq.	0	10	6
aC. H. S. Leicester, Esq. ..	1	1	0
aW. H. Leighton, Esq. ..	2	2	0
aRev. J. Leishman	1	0	0
aMons. L'Evesque	0	5	6
aA. M. Lindsay, Esq.	0	10	0
aRev. W. R. Linton	1	1	0
aRev. J. Little	1	0	0
aDean of Lichfield	2	2	0
aMons. Lortet, Esq.	0	12	6
aLady Low	1	0	0
aA. Lupton, Esq.	1	1	0
aG. Maingay, Esq.	1	1	0
aRev. F. A. Maitland	2	2	0
aH. J. Manton, Esq.	1	1	0
aRev. J. Marshall	1	1	0
aR. F. Martin, Esq.	1	1	0
aR. F. Martin, Esq.	2	2	0
aMiss Martin	1	1	0
aS. S. Martyn	1	1	0
aH. T. Martyn	0	10	6
aA. McArthur, Esq., M.P. ..	1	1	0
aRev. D. Macaulay	0	10	6
aRev. E. McCready	1	1	0
aJohn McGregor, Esq. ..	2	2	0
aM. McIndoe, Esq.	0	5	0
aJ. McKinnel, Esq.	1	1	0
aRev. A. McKennal (1884–85)	2	2	0
aRev. S. R. Macphail	0	10	6
aMiss Macpherson	0	10	6
aMiss McWhirter	0	10	6
aRev. R. Macpherson	0	10	6
aRev. P. Mearns	0	10	6
aR. Mellors, Esq.	1	1	0
aRev. A. Melville	1	0	0
aRev. P. O. B. Methuen ..	0	10	6
aRev. A. Miller	0	10	6
Carried forward	£253	12	4

	£	s.	d.
Brought forward	253	12	4
aR. M. Miller, Esq.	0	10	6
aMiss Mills	1	1	0
aMitchell Library	0	10	6
aW. R. Mitchell, Esq.	0	10	6
aBishop of Moray and Ross ..	1	1	0
aRev. J. H. Moore	1	0	0
aRev. W. Bramley-More ..	0	10	6
aH. Morris, Esq.	1	0	0
aRev. A. M. Morrison	5	0	0
aH. J. Morton, Esq.	1	1	0
aRev. W. Morton	0	10	6
aSir W. Muir	1	1	0
aMiss Mullholland	1	1	0
aRev. G. H. Mullins	1	1	0
aMiss Murdoch	1	1	0
aRev. F. U. Murray	1	1	0
aRev. V. Musgrave	1	0	0
aBishop of Nelson	1	1	0
aSir C. Nicholson	1	1	0
aH. S. Noblett, Esq.	0	10	6
aMrs. Norriss	2	2	0
aMrs. Nutter	1	1	0
aDr. Ogle	1	1	0
aF. R. Ohlson, Esq.	1	1	0
aMrs. Ormond	0	10	6
aLady A. Onslow	2	2	0
aT. Osborne, Esq.	1	0	0
aRev. H. Osgood	0	10	6
aW. D. Paine, Esq.	2	2	0
aPaisley Institute	1	1	0
aMrs. Paley	0	10	6
aGen. Parker	1	1	0
aC. Eyre Parker, Esq.	1	1	0
aMiss Peard	1	1	0
aRev. Canon Pearson	1	0	0
aH. F. Pease, Esq.	1	1	0
aMiss Peckover	0	10	0
aD. M. Peebles, Esq.	1	0	0
aMiss Petit	1	1	0
aH. Peto, Esq.	2	0	0
aF. W. Pinney, Esq.	1	1	0
aW. Pitcairn, Esq.	0	10	0
aT. H. Plowes, Esq.	1	1	0
aHerr von Pochhammer, Esq. ..	1	0	0
aRev. R. Powell	0	10	6
aS. F. Pownall, Esq.	1	1	0
aRev. F. Poynder	0	10	6
aRev W. Lance	1	0	0
aRev. T. Price	0	10	6
aT. Prince, Esq.	1	1	0
aJohn Pritchet, Esq.	0	10	6
aRev. W. H. Proby	1	1	0
aRev. Y. R. Purcell	0	10	6
a"R."	0	10	6
aW. Ragget, Esq.	0	5	6
Carried forward	£309	5	4

	£	s.	d.
Brought forward	309	5	4
aSurg.-Gen. Ranking	1	1	0
aW. R. Reeves, Esq.	0	10	0
aReligious Tract Society ..	5	5	0
aRev. A. M. Rendell	1	1	0
aRev. C. J. Reynolds (1883–85)	2	2	0
aH. Richardson, Esq.	1	1	0
aRev. O. M. Ridley	0	10	0
aRev. O. M. Ridley	0	10	6
aRev. T. Rigaud	0	10	0
aThos. Roberts, Esq.	0	10	6
aMrs. Roscoe	1	1	0
aRev. W. Rorison (1884) ..	1	0	0
aJ. Rountree, Esq. (1883–85)	1	1	0
aRev. Dr. Russell	0	10	6
aRev. J. C. Rust	0	5	0
aRev. J. Ruthven	0	10	6
aW. H. Rylands, Esq... ..	1	1	0
aSamuel Bros.	1	1	0
aMiss Sargent	0	10	6
aMiss Sawyer	0	10	6
aRev. Canon Scarth	1	1	0
aMiss E. Secretan	0	10	6
aRev. H. Segar..	0	10	6
aRev. E. J. Selwyn (1883–85)	3	3	0
aA. Smith, Esq.	0	10	6
aCol. Smyth	1	1	0
aR. J. Snape, Esq.	1	1	0
aDr. A. Socin	0	10	6
aE. Stanford, Esq.	10	10	0
aRev. B. L. Stanhope	1	1	0
aRev. T. Stenhouse	0	10	6
aT. Sterry, Esq.	1	1	0
aRev. E. C. Stewart	1	1	0
aEugene Stock, Esq.	0	10	6
aH. Stokes, Esq.	0	10	0
aRev. R. A. H. Stroud ..	0	10	0
aMiss S. Strutt..	1	0	0
aC. E. Stuart, Esq.	1	1	0
aColonel Stuart	1	1	0
aH. Studdert, Esq.	1	11	6
aMiss Styan	1	1	0
aMiss Sutherland	0	10	6
aMartin Sutton, Esq. . ..	1	1	0
aRev. Canon Swayne (1884–85)	2	2	0
aR. Taylor, Esq.	1	1	0
aMiss Taylor	1	1	0
aJ. F. Taylor, Esq.	0	10	6
aTheological Seminary, Rochester (U.S.A.)..	0	10	6
aJ. D. Thomas, Esq.	0	10	6
aE. Thomas, Esq.	1	1	0
Carried forward	£368	1	10

	£	s.	d.
Brought forward	368	1	10
aRev. A. Thompson	1	1	0
aRev. J. H. Thomson	0	10	6
aMiss Tolson	1	1	0
aH. B. Tomkins, Esq... ..	1	0	6
aMrs. F. W. Tremlett.. ..	0	10	0
aJ. A. Trench, Esq.	0	10	6
aRev. Canon Trotter	0	10	6
F. F. Tuckett, Esq.	1	1	0
F. F. Tuckett, Esq. (don.) ..	1	0	0
aMrs. W. Tufnell	1	1	0
aA. J. Tufnell, Esq.	0	10	6
aMiss Tufnell	0	10	6
aMrs. Tufnell	0	10	6
aR. Turnbull, Esq.	0	10	6
aUnion Theological Seminary	0	10	6
aJ. Vavasseur, Esq.	1	1	0
aJ. E. Wade, Esq	2	0	0
aC. J. Wake, Esq.	0	10	6
aJ. E. Wakefield, Esq. ..	1	1	0
dMiss Wakeham	5	5	0
aJ. H. Waldon, Esq.	1	0	0
aRev. W. H. Walford.. ..	2	2	0
aRev T. G. Walten	1	1	0
aR. Waterfall, Esq.	0	10	6
aJoseph Watts, Esq.	0	10	6
aMiss D. Way	1	11	6
aMrs. Wedgwood	2	0	0
aMrs. Welland	1	0	0
aRev. A. T. White	1	0	0
aN. C. White	1	1	0
aJohn Whitehead, Esq. ..	1	0	0
aW. Wickes, Esq.	0	10	6
aRev. F. E. Wigram	5	5	0
aGen. Sir R. W. Wilbraham ..	1	1	0
aMrs. Wilkinson	0	10	6
aRev. Prof. Williams	0	10	6
aMiss Williams..	1	1	0
aC. Wilson, Esq.	2	0	0
aMrs. Wilson	0	10	6
aW. Wilson, Esq.	0	10	6
aJ. G. Wilson, Esq. (1883–84)	2	2	0
aRev. H. Wilson	0	10	6
aJ. W. Wilson, Esq.	1	1	0
aH. K. Wood, Esq.	1	1	0
aW. C. Wood, Esq. (1884–85)	2	2	0
aRev. Dr. Wray	1	1	0
aDr. Aldis Wight (1883–85) ..	6	6	0
aRev. W. H. Wright	0	10	6
aMiss Young	0	10	6
aMrs. B. Young	1	1	0
aW. B. Young, Esq.	1	1	0
Total	£431	0	4

LOCAL SOCIETIES.

(Acknowledged in detail under special heading).

	£	s.	d.
Aberdeen	21	2	0
Bishops Waltham	2	2	0
Bodmin	1	1	0
Bolton	2	12	6
Brighton	14	17	0
Cardiff	14	3	6
Dunfermline	8	12	6
Glasgow	1	15	0
Hitchin	5	5	0
Lancaster	1	0	6
Manchester	20	9	6
Montreal (Canada)	2	18	0
Newport (Mon.)	3	13	6
Reading	1	1	0
Scarborough	2	10	0
Shrewsbury	1	1	0
Sydney	6	1	0
Tunbridge Wells	4	13	0
Weston-super-Mare	8	7	0
Whitby	2	0	0
Woodstock (Ontario, Canada)	1	1	0
	£126	5	0

ABERDEEN LADIES ASSOCIATION.

March 13, 1885.—By cash.. .. .. £21 2*s.*

	£	s.	d.
Misses Fiddes, Union Street	0	5	0
Misses Miller, 158, Crown Street	0	10	0
Rev. John Davidson, D.D., Manse, Inverurie	0	10	0
Mrs. Hargrave, 38, India Street, Edinburgh	0	10	6
Mrs. Ogilvie Forbes, Boyndlie House, Fraserburg	0	5	0
Mr. Corbet, Bieldside, Cults	0	5	0
Mr. Anderson, Murtle Cottage	0	5	0
Rev. Alex. Bannatyne, 5, Rubislaw Place	0	10	6
Dr. Edmond, of Kingswells	1	0	0
Francis Ogston, Esq., M.D., 13, Albyn Terrace	0	10	6
Dr. and Mrs. Dyce Davidson, 224, Union Street	0	10	6
Robert Smith, Esq., Glenmillan	0	10	6
J. Murray Garden, Esq., Maryfield	1	1	0
Andrew Murray, jun., Esq., 103, Union Street	0	10	6
Robert Gerard, Esq., 99, Union Street	0	10	6
George Milne, Esq., McCombie's Court	0	10	6
George Jamieson, Esq., 19, Queen's Road	0	10	6
Mrs. Yeats, Beaconhill	1	1	0
Alex. D. Milne, Esq., 40, Albyn Place	0	10	6
James Chambers, Esq., Westburn	0	5	0
Wm. Smart, Esq., 131, Union Street	0	10	6
Alexander Cochran, Esq., 152, Union Street	0	5	0

	£	s.	d.
Rev. J. Mitchell, Mitford	0	5	0
Charles J. Burnett, Esq., Old Aberdeen	0	10	6
Wm. Stephenson, Esq., M.D., 297, Union Street	0	10	6
Dr. Stewart, Heathcot	0	10	6

COLLECTED BY MRS. DOAK.

John Crombie, Esq., Balgownie	1	1	0
George Thompson, Esq., Pitmedden	1	0	0
David Stewart, Esq., 293, Union Street	1	0	0
Theodore Crombie, Esq., 18, Albyn Place	1	0	0
George Thompson, Esq., Yoct, Aberdeen	1	0	0
James Rose, Esq., 5, Rubislaw Terrace	0	10	6
Mrs. Stephen Thompson, London	0	10	6
Alexander Webster, Esq., 40, King Street	0	10	6
Wm. Henderson, Esq., Devanah	0	10	6
Mr. and Mrs. Doak, 15, Queen's Road	0	10	6
Miss Johnston	0	5	0
Miss Mary Forbes, Freshfield Cottage, Cults	0	10	0

BISHOPS WALTHAM.

March 10.—By cash .. .. £2 2*s.*

	£	s.	d.
Rev. A. B. Burton, Westmere Rectory, Peterefield ..	0	10	6
Rev. W. G. Medlicott, Swanmore Vicarage, Bishops Waltham	0	10	6
Rev. H. R. Fleming, Corkampton Vicarage, Bishops Waltham	0	10	6
Mr. James Padbury, Bishops Waltham	0	10	6

BODMIN.

Feb. 11.—By cash .. .. £1 1*s.*

	£	s.	d.
Samuel Hicks, Esq...	0	10	6
J. S. Pethybridge, Esq.	0	10	6

BOLTON.

Feb. 26.—By cash .. .. £1 12*s.* 6*d.*

	£	s.	d.
Rev. S. F. Maynard	2	2	0
T. Stubbs, Esq.	0	10	6

LIST OF SUBSCRIPTIONS.

BRIGHTON.

	£	s.	d.
Miss Bovill	1	1	0
J. Lowe Reid, Esq...	2	2	0
Miss Ridding	5	0	0
Somers Clarke, Esq.	1	1	0
G. N. Winter, Esq.	1	1	0
Rev. R. Hudson	0	10	0
Rev. F. T. Hill	1	0	0
H. C. Malden, Esq...	1	1	0
Rev. D. Robertson	1	1	0
Mrs. Soames..	1	0	0

CARDIFF.

Jan. 12.—By cash .. .. £14 3*s.* 6*d.*

	£	s.	d.
Rees Jones, Esq., Hulswell Terrace	1	1	0
Messrs. Powell, Duffyn Steam Coal Co...	1	1	0
Bickerton Prute, Esq.	0	10	6
Messrs. Thomas & Riches	1	1	0
Messrs. Coffin & Co.	1	1	0
John Fry, Esq.	1	1	0
C. M. Jacob, Esq.	1	1	0
John Cory, Esq.	2	2	0
Richard Cory, Esq...	1	1	0
Messrs. D. Davis & Sons	1	1	0
Messrs. Jones, Hearn & Ingram	1	1	0
Messrs. Nixon's Navigation Co.	1	1	0
E. R. Moxey, Esq.	1	1	0

DUNFERMLINE.

PER REV. ANDREW GRAHAM, CROSSGATES.

Feb. 27.—By cash .. .. £8 12*s.* 6*d.*

	£	s.	d.
Thomas Alexander, Esq.	1	0	0
George Birrell, Esq.	0	7	0
Rev. James Brown, Lochgelly	0	5	0
William Glass, Esq.	0	5	0
Rev. A. Graham, Crossgates	0	5	0
William Inglis, Esq.	0	10	6
Daniel Lamond, Esq.	0	5	0
John Landale, Esq.	1	0	0
James MacFarlane, Esq.	0	10	6
Messrs. W. & J. McLaren..	0	10	6
Rev. Dr. Mitchell	0	2	6
William Reid, Esq.	0	5	0
John Ross, Esq.	0	10	6
Rev. James Shiach..	0	5	0
Patrick F. Soutar, Esq.	0	10	6
John Stevenson, Esq.	0	10	6
Andrew Wallace, Esq.	1	0	0

SUBSCRIPTIONS RECEIVED IN EDINBURGH DURING THE YEAR 1884.

	£	s.	d.
John Watson, Esq.	1	1	0
Adam Skirving, Esq.	1	0	0
R. Gibson, Esq.	1	0	0
Major-Gen. J. G. R. Forlong .	1	0	0
John Hoyes, Esq.	2	0	0
Mrs. Hoyes	1	0	0
Rev. D. R. H. Stevenson ..	0	10	0
Mrs. Gallaway	1	1	0
Miss Crooks	1	0	0
Miss McMicking	1	1	0
Mrs. Mill	1	0	0
W. G. Dickson, Esq.	1	0	0
Mrs. Mackintosh	0	10	0
Miss Gall	0	2	0
Rev. G. B. Carr	0	5	0
Rev. Wm. Balfour	0	10	6
Robt. R. Kalley, Esq.	0	10	0
J. J. Rogerson, Esq.	1	0	0
Mrs. A Stewart	0	10	6
W. F. Burnley, Esq.	1	0	0
W. J. Ford, Esq.	1	1	0
Messrs. Gall & Inglis	1	0	0
Union Hall Religious Mutual Improvement Association ..	0	10	6
Edward Caird, Esq.	1	1	0
Misses Mune	0	10	0
Findlay Anderson, Esq. ..	1	0	0
Wm. Bryce, M.D.	1	1	0
W. Inglis, Esq.	0	5	0
T. B. Johnston, Esq.	1	1	0
Rev. C. G. Scott	1	0	0
Miss M. C. Scott	1	0	0
John A. Howden	1	1	0
Miss P. M. Ker	0	10	0
Misses Stevenson	1	0	0
Mrs. Geo. Brown	0	10	0
Miss E. Hunter	0	10	0
James Sime, Esq.	1	0	0
Rev. Dr. Andrew Thomson ..	0	5	0
Patrick Guthrie, Esq.	0	5	0
Mrs. Maitland	0	5	0
Mrs. and Miss Paterson ..	0	10	0
Rev. Dr. Alex. Whyte	1	0	0
David Jeffrey, Esq.	1	0	0
Messrs. Scott Brothers	0	5	0
Prof. A. R. Simpson	1	1	0
Carried forward	£35	12	6

	£	s.	d.
Brought forward	35	12	6
John Moir, M.D.	1	1	0
Douglas Maclagan, Esq. ..	1	1	0
Miss Mackenzie	2	0	0
Mrs. Edmond	0	5	0
John Turnbull, Esq.	1	0	0
William Lyon, Esq.	1	0	0
Messrs. Andrew Usher & Co. ..	0	10	6
William Dickson, Esq.	1	1	0
Mrs. Miller	0	10	0
Rev. Dr. Teape	0	10	0
Major G. A. Agnew	1	1	0
P. Mill, Esq.	1	1	0
J. P. B., Esq.	1	0	0
Rev. A. Luke	0	10	0
Rev. D. McDougall	0	10	6
R. M. Smith, Esq.	1	1	0
James Steuart, W.S.	0	10	6
John Macnair, Esq.	0	10	0
Dean Montgomery	0	5	0
John Kennedy, Esq.	1	0	0
Mrs. Wood	0	5	0
Sir James Falshaw, Bart. ..	1	0	0
John Scott Moncrieff, Esq. ..	0	10	0
Miss Buchanan	0	2	6
Alex. Padon, Esq.	0	10	0
J. R. Stewart, Esq.	0	10	0
Messrs. Thomas Nelson & Sons	1	0	0
Robt. Younger, Esq.	0	10	6
Mrs. Colonel MacDougal ..	1	0	0
W. J. Duncan, Esq.	1	1	0
Rev. D. Simpson	0	10	6
William Robson, Esq.	0	5	0
J. Balfour Melville, Esq. ..	0	10	6
David S. Dickson, W.S. ..	0	10	6
Horatius Bonar, W.S.	0	10	6
Mrs. Hunter	0	2	6
Thomas A. G. Balfour, M.D. ..	0	5	0
Rev. J. C. Macphail	0	5	0
G. C. J. C.	10	0	0
Rev. J. H. Wilson, D.D. ..	0	5	0
J. T. Wilson, Esq.	0	10	0
Bishop of Edinburgh	0	5	0
John. M. McCandlish, Esq. ..	2	0	0
A. Elliot, Esq.	0	10	0
J. Thin, Esq.	0	10	0
	£75	8	6

LIST OF SUBSCRIPTIONS.

EDINBURGH LADIES' AUXILIARY.

COLLECTED BY MISS DALGLEISH, 8, ATHOLL CRESCENT, EDINBURGH, 1885.

	£	*s.*	*d.*
John J. Dalgleish, Esq.	0	10	6
Mrs. Dalgleish	0	10	6
Miss Dalgleish	0	10	6
Dr. Craig Maclagan	0	10	6
Mrs. Hastie	1	0	0
John Macfie, Esq.	0	10	6
Mrs. Harvie Brown	0	10	6
C. A. McVean, Esq.	0	10	6
Dr. Duncan	1	1	0
Rev. Dr. Stuart	0	10	6
Laurence Dalgleish, Esq.	0	10	6
Mrs. Lang and Miss Duncan	0	7	6
	£7	3	0

GLASGOW.

Feb. 9.—By cash .. .. £1 15*s.*

	£	*s.*	*d.*
Rev. Prof. Robertson	1	0	0
Rev. D. Winter	0	15	0

HITCHIN.

Feb. 5.—By cash .. .. £5 5*s.*

	£	*s.*	*d.*
J. Gatward, Esq.	0	10	6
J. Pollard, Esq. (Local Sec.)	0	10	6
T. Priest, Esq.	0	10	6
W. Ransom, Esq.	1	1	0
T. Seebohm, Esq.	1	1	0
Mrs. Smyth	0	10	6
J. H. Tuke, Esq.	1	1	0

LANCASTER.

Feb. 25.—By cash .. .. 10*s.* 6*d.*

	£	*s.*	*d.*
Mrs. Pattinson	0	10	6
Miss Clayton	0	10	0

MANCHESTER.

	£	s.	d.
Jan. 8.—By cheque	3	10	0
„ 20.— „	7	10	6
Mar. 16.— „	9	9	0
	£20	9	6

	£	s.	d,
*a*R. W. Barnes, Esq.	0	10	6
*a*F. W. Grafton, Esq., M.P.	2	2	0
*a*W. Slater, Esq., jun.	1	1	0
*a*G. Robinson, Esq.	1	1	0
*a*John Robinson, Esq.	2	2	0
*a*Mrs. Cruso..	1	1	0
*a*G. H. Goldsmith, Esq.	1	1	0
*a*James Barlow, Esq.	1	1	0
*a*J. R. Barlow, Esq.	1	1	0
*a*W. H. Houldsworth, Esq.	1	1	0
*a*Walter Bellhouse, Esq.	1	1	0
*a*Ernest Bellhouse, Esq.	1	1	0
*a*T. Rymer, Esq.	1	1	0
*a*Edward Hardcastle, Esq...	1	1	0
*a*Rev. W. J. Smith	0	10	6
*a*H. Calvert, Esq.	0	10	6
*a*Rev. W. Symonds..	0	10	6
*a*R. Baxendall, Esq.	1	1	0
*a*Miss Lees	0	10	6
*a*John Krauss	1	1	0

ERRATA.

January No.—*For* Rev. Dr. McLaren £1 1*s.* *read* £1.

MONTREAL, CANADA.

Feb. 11.—By cash .. .. £2 18*s.*

	£	s.	d.
Miss Hall	2	2	0
A. Munister, Esq., Toronto	0	4	0
F. E. Grafton, Esq.	0	12	0

NEWPORT (MON.).

Jan. 12.—By cash .. .. £3 13*s.* 6*d.*

	£	s.	d.
Rev. William Hughes, Ebbw Vale Parsonage	0	10	6
Rev. John Morgan, Nantyglo Vicarage	0	10	6
Rev. Canon Edwards, Caerleon Vicarage	0	10	6
The Right Hon. Lord Tredegar	1	1	0
F. L. Justice, Esq., Newport (Mon.)	0	10	6
H. J. Davis, Esq.	0	10	6

READING.

Jan. 10, 1885.—By cash .. .. £1 1*s.*

	£	*s.*	*d.*
H. B. Blandy, Esq.	0	10	6
Mrs. Blandy	0	10	6

SCARBOROUGH.

1884.

Jan. 1, 1885.—By cash .. .. £2 10*s.*

	£	*s.*	*d.*
Miss Hebden	1	0	0
Miss Harris Tindall	0	10	0
J. H. Phillips (1885)	0	10	0
Scarborough Philological Society	0	10	0

SHREWSBURY.

Jan. 8.—By cash .. .. £1 1*s.*

	£	*s.*	*d.*
Rev. Canon Butler	1	1	0

SYDNEY, NEW SOUTH WALES.

Jan. 5.—By cash .. .. £5.
Feb. 16.—By cash .. .. £1 1*s.*

	£	*s.*	*d.*
Lady Allen, Toxlett Park, Glebe Point, Sydney ..	1	1	0
Mrs. Allen, senior, Sydney	1	1	0
Mr. W. B. Boyce, Sydney	1	1	0
Mrs. Hugh Dixon, Holden Street, Ashfield, N.S.W. ..	1	1	0
Rev. F. Hibberd, N.S.W.	1	1	0
G. R. Harrison	1	1	0

TUNBRIDGE WELLS.

March 17.—By cash .. .. £4 13*s.*

	£	*s.*	*d.*
Rev. H. J. Rhodes	1	1	0
W. F. Browell, Esq.	1	1	0
Miss Gordon	0	10	0
Mrs. F. Skipwith	1	0	0
George Bartramly, Esq.	1	1	0

WESTON-SUPER-MARE.

Dec. 30, 1884.—By cash .. .. £8 7*s.*

	£	*s.*	*d.*
Church Institute	0	10	6
Miss M. S. Tomkins	0	10	6
Rev. H. G. Tomkins	0	10	6
Miss Rodham	0	10	6
Mrs. Cookson	0	10	6
Rev. M. O. Stevens	0	10	6
Rev. J. B. Bartlet	0	5	0
Miss Wills	0	10	0
Mrs. Temple	0	5	0
Rev. U. Smith Tomkins	0	10	6
Miss Haslewood	0	5	0
Miss Lunell	0	10	6
Rev. D. W. Weeler	0	10	6
Rev. T. Birkett	0	10	0
Miss McAdam	0	2	6
Dr. Roxburg	0	5	0
Mrs. Hugh Matheson	0	5	0
Major-Gen. Davidson, R.E.	0	10	6
Rev. Prebendary Hunt	0	10	6

WHITBY.

Feb. 9.—By cash .. .. £2.

	£	*s.*	*d.*
E. W. Chapman, Esq.	2	0	0

WOODSTOCK (ONTARIO, CANADA).

Feb. 25.—By cash .. .. £1 1*s.*

	£	*s.*	*d.*
Mrs. C. Beard	1	1	0

SUMMARY OF LECTURES.

By Rev. H. Geary.

1885.	£	*s.*	*d.*
Jan 15.—Ware	11	4	7
„ 21.—Stamford Hill	8	6	3
„ 22.—St. Mark's, Windsor (two lectures)	13	4	3
Feb. 5.—Winchester College	15	0	0
„ 19.—Canterbury (two lectures)	10	8	0
Mar. 5.—St. Saviour's, Eastbourne	7	7	4
„ 17.—Chiselhurst	12	2	2
„ 19.— } Hastings and St. Leonards	19	10	3
„ 20.— }			

SUPPLEMENTARY LIST.

CARDIFF.

For year 1884.

March 23.—By cash .. .. £1 11*s.* 6*d.*

	£	*s.*	*d.*
John Moore, Esq., 18, Windsor Place	0	10	6

For year 1885.

James McCreath, Esq., Glasgow	1	1	0

DARLINGTON.

By cash £26 11 6

	£	*s.*	*d.*
Arthur Pease, Esq., M.P.	10	0	0
Sir J. W. Pease, Bart., M.P.	5	0	0
H. F. Pease, Esq.	1	1	0
Mrs. Gurney Pease..	10	0	0
Miss Prideaux	0	10	6

LEEDS.

	£	*s.*	*d.*
Sir Edward Baines..	1	1	0
Frederick Baines, Esq.	1	1	0
William Baxter, Esq.	0	10	6
J. Bilbrough, Esq.	0	10	6
A. Kemp Brown, Esq.	0	10	6
Right Rev. Bishop Cornthwaite, D.D.	1	1	0
Rev. Dr. Conder	0	10	6
Mrs. Crawford	1	1	0
The Misses Crowther	1	1	0
J. W. Embleton, Esq.	1	1	0
J. G. Goode, Esq., Nottingham	1	1	0
Miss Harris, Oxton Hall	1	1	0
Mrs. Harvey	1	1	0
Rev. W. A. Hayes, Dromore I.	1	0	0
Rev. John Hey, York	1	1	0
John Holmes, Esq...	0	10	6
John Jowitt, Esq.	1	1	0
Sir Charles H. Lowther, Bart.	2	2	0
Miss Maude, Knowsthorp	1	0	0
Henry Nelson, Esq.	1	1	0
Rev. H. Bickersteth Ottley, Horsham	1	1	0
Rev. Dr. Rooke, Rawdon College..	2	2	0
Charles Ryder, Esq.	1	1	0
Mrs. H. Scatcherd, East Keswick..	0	10	6
Mrs. Tweedale	1	1	0
J. W. Willans, Esq.	0	10	6
Rev. J. G. Wood	1	1	0

NEWPORT (MON.)

For year 1884.

March 23.—By cash .. .. £2 16*s.* 6*d.*

	£	*s.*	*d.*
Octavius Morgan, Esq., The Friars	1	0	0
William Graham, Esq., Oakfield, Clysha Park	0	10	6

For year 1885.

Thomas Cordes, Esq., Bryn Glâs..	1	1	0

SUMMARY.

	£	*s.*	*d.*
Subscriptions and Donations	431	0	4
Local Societies	126	5	0
From Lectures	21	16	4
Maps, Memoirs, and Books	147	11	0
	£726	12	8

LIST OF HONORARY SECRETARIES AND LOCAL ASSOCIATIONS.

ALLOA: Rev. Alexander Bryson and Rev. Daniel M'Lean.
ABERDEEN: Rev. Prof. Milligan, D.D. *Hon. Sec.* Ladies' Association, Miss Mary Forbes.
ADELAIDE: Rev. W. R. Fletcher.
AMBLESIDE: Rev. H. B. Rawnsley, Wray Vicarage.
ANSTRUTHER: W. H. Mackintosh, Esq.
ARBROATH: T. B. F. Webster, Esq.
AYR: Robert Murdoch, Esq.
BASINGSTOKE: Rev. W. Marriner.
BATH: Rev. T. P. Methuen.
BEDFORD: Rev. Canon Haddock.
BELFAST: Rev. the President of Queen's College.
BIRKENHEAD: Rev. J. T. Kingsmill, St. Aidan's College.
BIRMINGHAM: Rev. F. Dell.
BISHOP'S WALTHAM: Rev. H. R. Fleming.
BLACKBURN: Herbert Birch, Esq., and Rev. A. B. Grosart.
BLAIRGOWRIE: W. S. Soutar, Esq.
BODMIN: S. Hicks, Esq.
BOLTON: George Monk, Esq.
BRECON: Richard Mills, Esq.
BRIGHTON: Rev. C. E. Douglass.
BURNLEY: Alfred Strange, Esq.
BURY: *Hon. Treas.*—Rev. Canon J. Hornby; *Hon. Sec.*—Rev. D. Walmsley.
CAMBRIDGE: W. M. Hicks, Esq., M.A., St. John's College; G. T. Bettany, Esq., M.A., Gonville and Caius.
CANADA: Toronto.—Subscriptions are received by the Hon. G. W. Allan.
CASTLE BELLINGHAM (IRELAND): Rev. F. G. McClintock.
CARDIFF: W. Adams, Esq., Cambridge House, Park Place, Cardiff.
CHELMSFORD: Rev. E. Nathaniel Powell.
CHELTENHAM: Dr. E. Wilson.
CHESTER: Rev. J. Davidson.
CHIPPENHAM: A. T. Keary, Esq.
CITY AND COUNTY OF CORK: H. S. Perry, Esq., Monkstown.
CLIFTON and BRISTOL: Rev. C. H. Wallace.
COLCHESTER: Rev. N. P. Gepp.
CROYDON: J. W. Janson, Esq.
DARLINGTON: J. P. Pritchett, Esq.
DEVONPORT: J. Venning, Esq.

DUBLIN: Denis Crofton, Esq., and Rev. G. T. Stokes.
DUNDEE: *Hon. Treas.*—Alex. Scott, Esq.
DUNFERMLINE: Rev. A. Graham, Crossgates.
EASTBOURNE: Rev. H. R. Whelpton.
EDINBURGH: Rev. W. Lindsay Alexander, D.D., William Dickson, Esq., F.R.S.E., and T. B. Johnston, Esq., F.R.G.S., 16, So. St. Andrew Street.
EPSOM: Miss Hislop.
EXETER: Rev. Prebendary Acland, Broad Clyst, and Rev. W. David.
FAIRFIELD: S. J. A. Barrow-Clough.
FALMOUTH, for the County of Cornwall: A. Lloyd Fox.
FROME: C. W. Le Gros, Esq.
GAZA: J. G. Pickard, Esq.
GLASGOW: Rev. W. P. Dickson, D.D., Rev. Donald Macleod, D.D., A. B. M'Grigor, Esq., LL.D., and James Andrew Allan, Esq.
GREENOCK: Edward Blackmore, Esq.

GUILDFORD: Colonel Pask.
HASTINGS: J. E. Liddiard, Esq.
HEREFORD: Rev. F. S. Stooke-Vaughan.
HERTFORD: W. M. Armstrong, Esq.
HITCHIN: J. Pollard, Esq.
HOLYHEAD: Rev. W. R. Jones.
HUDDERSFIELD: Henry Barker, Esq.
HULL: J. P. Bell, Esq., M.D.
IPSWICH:
IRELAND:—DUBLIN: *Hon. Secs.*—Rev. G. T. Stokes, Blackrock; Denis Crofton, Esq. *Treasurers.*—The Munster Bank.
JERUSALEM: Dr. Chaplin.
KENDAL: Robert Somervell, Esq.
KIRKCALDY: John Barnett, Esq.
LANCASTER: Rev. J. Bone.
LARKHALL: Rev. William Findlay, A.M.
LEAMINGTON: Rev. J. Johnson, M.A.
LEDBURY: Rev. F. Salter Stooke-Vaughan.
LEEDS: Edward Atkinson, Esq., F.R.C.S.
LEICESTER: Rev. A. A. Isaacs, M.A.
LEWES: Rev. Cecil Blaker.
LICHFIELD: Herbert M. Morgan, Esq. *Hon. Sec.* Ladies' Association, Mrs. Bagnall.
LINCOLN: Rev. A. R. Maddison.
LIVERPOOL: Ven. Archdeacon Bardsley.
LONDONDERRY: James McCorkell, Esq., Queen Street.

MANCHESTER: Rev. W. F. Birch, and Rev. Canon Crane. *Treasurer.*—Olive Heywood, Esq., Manchester and Salford Bank, St. Ann's Street.
MANSFIELD: W. Gouk, Esq.
MARGATE: Rev. G. Collis.
MARKET HARBOROUGH: Joseph Nunnelly, Esq.
MELTON MOWBRAY: Rev. Arthur M. Rendel.
MELROSE: Ralph Dunn, Esq.

MONTROSE: Mr. Mackie.
MORPETH: Dr. Robinson.
NORWICH: Rev. W. F. Creeny.
OXFORD: Rev. Canon Girdlestone.
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PITLOCHRIE: Hugh Mitchell, Esq.
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PWLLHELI: Rev. Owen Jones.
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REIGATE:
RICHMOND, SURREY:
RIPON: J. W. Weight, Esq.
RUGBY: Rev. A. O. James.
RUNCORN: Rev. W. Preston, M.A.
RYDE: E. Knocker, Esq.
SALISBURY: J. Lardner Green, Esq., M.R.C.S.
SCARBOROUGH: Rev. J. Bedford.
SHEFFIELD: *Chairman*—Rev. Canon Blakeney, Vicar of Sheffield.
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SISSINGHURST: Rev. W. Peterson.
SOUTHAMPTON and ROMSEY: Rev. Henry C. Hawtrey.
SOUTHSEA: Rev. F. Baldey.
SOWERBY: Rev. A. L. W. Bean.
ST. ALBANS: Rev. W. J. Lawrance.
ST. ANDREWS: Dr. Lees, and Dr. Mitchell.
ST. HELENA: Rev. Canon Lambert.
STROUD: T. S. Osborne, Esq.
SYDENHAM and FOREST HILL: Rev. William Boyd, LL.D.
SYDNEY, NEW SOUTH WALES: Rev. R. Steel, D.D.
TEIGNMOUTH: Rev. H. Hutchins.
TORQUAY: Rev. Prebendary Wolfe.
UXBRIDGE: Rev. A. A. Harland.
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WELLS: W. I. Welsh, Esq.
WESTON-SUPER-MARE: Rev. H. G. Tomkins.
WEYMOUTH: G. Ff. Eliot, Esq.
WHITBY: E. W. Chapman, Esq.
WILLESDEN: Rev. J. Crane Wharton.
WINCHESTER: Rev. R. P. Hutchinson.
WINDSOR: Rev. Stephen Hawtrey.
WOLVERHAMPTON: Mr. J. McD. Roebuck.
WOODSTOCK: Ontario.—William Edwards, sen., Esq.
WORCESTER: Rev. Francis J. Eld.
YEOVIL: Rev. Abel Phillips, Holy Trinity Vicarage.

The Committee will be glad to communicate with gentlemen willing to help the Fund as Honorary Secretaries.

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BLAIRGOWRIE : Miss Saunders.
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CLIFTON and BRISTOL : Mr. W. Mack, 38, Park Street.
COLCHESTER : Mr. Mattocks, Head Street.
CORK : Mr. P. Morgan.
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DUNBAR : Mr. Thomas Black, Belhaven.
DUNDEE : Miss Middleton, High Street ; Messrs. Winter, Duncan, and Co
EASTBOURNE : Mr. Leach, Grand Parade.
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FALMOUTH : Mr. R. C. Richards.
FROME : Mr. C. J. Sage, Upper Market Place.
GREENOCK : Messrs. J. McKelvie and Son.
GLASGOW : Messrs. James Maclehose and Sons.
GRANTHAM : Mr. Clarke.
HALIFAX : Mr. King, North Gate.
HAMILTON, N.B. : Mr. M. Bowie.
HERTFORD : Mr. E. Simson.
HITCHIN : Miss Palmer, High Street.
HUDDERSFIELD : Mr. Alfred Jubb, Estate Buildings.
HULL : Messrs. Leng and Co., 15, Saville Street.
IRVINE : Mr. C. Marchland.

LANCASTER: Mr. Longman, Market Street.
LEEDS: Mr. Jackson, Commercial Street.
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,, Mr. Albert Thompson, 24, Elliot Street.
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LONDONDERRY: Mr. James Hampton, Ship Quay Street.
MELTON MOWBRAY: Mr. W. Loxley.
MONTROSE: Mr. George Walker.
NEWCASTLE: *Hon. Treas.*—Thomas Hodgkin, Esq. *Hon. Sec.*—W. Lyall, Esq.
NORTHAMPTON: Messrs. Taylor and Son, Gold Street.
NORWICH: Mr. Henry W. Stacy, Gentleman's Walk.
PERTH: Mr. Jno. Christie; Messrs. R. A. and J. Hay, George Street.
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PRESTON: Mr. H. Oakey, Fishergate.
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ST. LEONARDS: Mr. Stuart, London Road.
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SEVENOAKS: Mr. Harrison, High Street.
SHREWSBURY: Messrs. Adnitt and Naunton, Market Square.
SOUTHAMPTON: Messrs. Gutch and Cox, High Street.
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WEYMOUTH: Mr. H. Wheeler, St. Mary Street.
WESTON: Mr. Robbins, High Street.
WHITBY: Mr Reed.
WINCHESTER: Messrs. Jacob and Johnson.
WOLVERHAMPTON: Mr. J. M'D. Roebuck.
YORK: Mr. William Sessions.

ERRATUM.

Mr. R. Laurence's determination of the height of the Watershed in the Arabah, as given in "Mount Seir," p. 85, should have been 705 feet, instead of the two stated.

E. H.

LIST OF DONATIONS AND SUBSCRIPTIONS.

FROM MARCH 17TH TO JUNE 17TH, 1885, INCLUSIVE.

a denotes Annual Subscriber.

*** If any omission or mistake be observed in the following lists, the Secretary will be very glad to be informed of it, and will rectify the error in the next *Quarterly Statement*.

	£	s.	d.
*a*Rev. Canon Allen	1	1	0
*a*Rev. W. Allan	1	1	0
*a*Rev. Sir Talbot Baker, Bart.	1	1	0
*a*E. S. Barker, Esq.	0	10	6
*a*Dr. T. Barlow..	1	1	0
*a*Rev. J. A. Bastow	0	10	6
*a*Rev. W. C. Bishop	1	1	0
*a*J. S. Blackett, Esq.	0	10	6
*a*E. R. Blackett, Esq... ..	0	10	6
*a*Mrs. Blackett..	0	10	6
*a*Rev. W. H. Blamire.. ..	2	2	0
*a*Rev. Dr. Bonar	1	0	0
*a*John Bonar, Esq.	0	10	0
*a*James Bonar, Esq.	0	10	0
*a*Miss Brocklehurst	5	0	0
*a*Dr. Brodie	1	1	0
*a*D. Bumstead, Esq.	0	10	6
*a*Rev. C. Burrough	1	1	0
*a*W. Butler, Esq...	0	10	6
*a*W. Cairns, Esq.	1	1	0
*a*Grevill J. Chester, Esq. ..	0	10	6
*a*W. T. Church, Esq.	1	1	0
*a*Rev. S. Churchill	0	10	6
*a*Rev. C. P. Clarke	1	1	0
*a*A. W. Cobham, Esq... ..	1	1	0
*a*Per Rev. H. Cocks	3	1	0
*a*J. Cowie, Esq.	0	10	6
*a*Rev. J. N. Dalton	1	1	0
*a*Rev. W. W. Dalton, D.D. (1884–85)	3	3	0
*a*Mrs. Dawes	1	1	0
*a*Rev. J. Dymock	0	5	0
*a*F. Faithfull, Esq.	0	10	0
*a*C. A. Flint, Esq.	1	1	0
*a*Rev. D. Forbes	0	10	6
*a*Bishop of Fredericton ..	1	1	0
*a*Miss S. S. Fripp	0	10	6
*a*Lord Justice Fry	1	1	0
*a*J. Gamble, Esq.	0	10	6
*a*E. W. Gere, Esq.	0	10	6
*a*Rev. R. B. Girdleston ..	1	1	0
Carried forward	£41	5	0

	£	s.	d
Brought forward	41	5	0
*a*Mrs. Greer (1885–85) ..	1	1	0
*a*Rev. E. Greig (1884–85) ..	2	2	0
*a*J. P. Griffiths (1884–85) ..	1	1	0
*a*A. Cust Gwynne, Esq., M.D.	0	10	6
*a*C. Hill, Esq.	1	1	0
*a*Miss Hindmarsh	0	10	6
*a*H. Hitchcock, Esq.	1	0	0
*a*Prof. Hudleston	1	1	0
*a*Thos. Hughes, Esq.	0	10	0
*a*Miss Hutchinson	1	1	0
*a*Miss Jones	0	10	6
*a*Rev. O. Jones..	0	10	6
*a*H. D. Jones, Esq.	0	10	6
*a*G. A. King, Esq.	0	10	6
*a*J. Kirkpatrick, Esq.	1	0	0
*a*E. W. Knocker, Esq... ..	1	1	0
*a*T. J. Lambert, Esq.	0	10	6
*a*Rev. Canon Lee	1	1	0
*a*Gen. Sir J. H. Lefroy ..	1	1	0
*a*Rev. J. A. Leicester	1	11	6
*a*Rev. R. Lovett	0	10	6
*a*G. H. Mann, Esq.	0	10	6
*a*Col. Mainguy	1	1	0
*a*D. McBrayne, Esq.	0	10	6
*a*J. McCorkell, Esq.	1	1	0
*a*A. McVicker, Esq.	0	10	6
*a*J. Melrose, Esq.	2	2	0
*a*J. Melrose, Esq. (don.) ..	1	7	0
*a*James Miller, Esq.	1	1	0
*a*Mrs. Mitchell	1	1	0
*a*Rev. F. R. Napier	1	1	0
*a*Rev. J. Neil	2	2	0
*a*Mrs. Newcomb	0	2	6
*a*W. O. Newnham, Esq. ..	2	2	0
*a*E. A. Nicholson, Esq. ..	0	10	6
*a*H. A. Norman, Esq.	2	2	0
*a*R. M. Norman, Esq... ..	1	1	0
*a*Herr Olseen, Esq.	0	2	6
*a*Miss Orlebar	1	1	0
*a*W. H. Owen, Esq.	1	1	0
Carried forward	£80	10	6

	£	s.	d.
Brought forward	80	10	6
*a*Dr. Penhall	1	1	0
*a*Captain Phipps	1	1	0
*a*J. R. Pilling, Esq.	0	10	6
*a*W. Piper, Esq. (1884–85) ..	2	2	0
*a*Rev. T. Prescott	0	10	6
*a*Rev. E. S. Prout	0	10	6
*a*Col. Puget	0	10	6
*a*T. Pullman, Esq.	1	1	0
*a*R. Rutherford, Esq.	0	10	6
*a*L'Abbe de St. Aignan ..	0	5	0
*a*J. A. Saunders, Esq... ..	0	10	6
*a*Rev. Prof. Sayce	1	1	0
*a*The Misses Scott	1	1	0
*a*Rev. J. K. Scott	0	10	6
*a*Miss Sharp	0	10	6
*a*R. Sheels, Esq.	0	10	6
*a*Lord Sidmouth	1	1	0
*a*Rev. A. C. Smith	0	10	0
Carried forward	£94	8	0

	£	s.	d.
Brought forward	94	8	0
*a*W. Smith, Esq.	0	10	0
*a*G. J. Philip Smith, Esq. ..	1	0	0
*a*J. Spencer, Esq. (1884–85) ..	1	0	0
*a*Rev. W. J. Stracey	1	1	0
*a*J. G. Strickland, Esq. ..	1	1	0
*a*E. Strickland, Esq.	0	10	6
*a*H. C. Stuart, Esq.	1	1	0
*a*Rev. Isaac Taylor	0	10	6
*a*Rev. E. J. Tyser	1	1	0
*a*Rev. J. Walther	0	10	6
*a*G. F. Watts, Esq.	1	1	0
*a*Miss D. Way	1	1	0
*a*R. T. Webb, Esq.	1	1	0
*a*C. Whitwell, Esq.	0	10	6
*a*H. B. S. Woodhouse, Esq. ..	1	1	0
*a*Mrs. Woodhouse	0	10	6
*a*Lady A. C. W. Wynn ..	0	10	6
Total	£108	9	0

LOCAL SOCIETIES.

(*Acknowledged in detail under special heading*).

	£	s.	d.
Bath	0	10	6
Brighton	1	11	6
Cambridge	1	1	0
Cardiff and Newport	4	3	0
Darlington	26	11	6
Edinburgh	60	0	0
Glasgow	0	10	6
Guildford	4	13	0
Leamington	1	11	6
Leeds	25	0	0
Leicester	1	10	0
Lincoln	1	1	0
Manchester	3	3	0
Norwich	18	18	0
Ontario	1	16	0
	£152	0	6

BATH.

March 17.—By cash .. .. 10*s.* 6*d.*

	£	s.	d.
Mrs. Archard	0	10	6

LIST OF SUBSCRIPTIONS.

BRIGHTON ASSOCIATION.

April 9.—By cash .. .. £1 11*s.* 6*d.*

	£	*s.*	*d.*
Rev. T. Calvert	0	10	6
Rev. C. E. Douglas	1	1	0

CAMBRIDGE.

April 22.—By cash .. .. £1 1*s.*

	£	*s.*	*d.*
The Rev. Master of Clare	1	1	0

CARDIFF.

For year 1884.

March 23.—By cash .. .. £1 11*s.* 6*d.*

	£	*s.*	*d.*
John Moore, Esq., 18, Windsor Place	0	10	6

For year 1885.

James McCreath, Esq., Glasgow	1	1	0

NEWPORT (MON.).

For year 1884.

March 23.—By cash .. .. £2 16*s.* 6*d.*

	£	*s.*	*d.*
Octavius Morgan, Esq., The Friars	1	0	0
William Graham, Esq., Oakfield, Clysha Park	0	10	6

For year 1885.

Thomas Cordes, Esq., Bryn Glâs	1	1	0

DARLINGTON.

March 30.—By cash .. .. £26 11*s.* 6*d.*

	£	*s.*	*d.*
Arthur Pease, Esq., M.P.	10	0	0
Mrs. Gurney Pease	0	10	6
Sir J. W. Pease, Bart., M.P.	5	0	0
H. F. Pease, Esq.	1	1	0
Miss Prideaux	0	10	6

SUBSCRIPTIONS RECEIVED IN EDINBURGH DURING THE YEAR 1884.

April 2.—By cash .. .. £60.

	£	s.	d.
John Watson, Esq.	1	1	0
Adam Skirving, Esq.	1	0	0
R. Gibson, Esq.	1	0	0
Major-Gen. J. G. R. Forlong..	1	0	0
John Hoyes, Esq.	2	0	0
Mrs. Hoyes	1	0	0
Rev. D. R. H. Stevenson ..	0	10	0
Mrs. Gallaway	1	1	0
Miss Crooks	1	0	0
Miss McMicking	1	1	0
Mrs. Mill	1	0	0
W. G. Dickson, Esq.	1	0	0
Mrs. Mackintosh	0	10	0
Miss Gall	0	2	0
Rev. G. B. Carr	0	5	0
Rev. Wm. Balfour	0	10	6
Robt. R. Kalley, Esq.	0	10	0
J .J. Rogerson, Esq.	1	0	0
Mrs. A Stewart..	0	10	6
W. F. Burnley, Esq.	1	0	0
W. J. Ford, Esq.	1	1	0
Messrs. Gall & Inglis	1	0	0
Union Hall Religious Mutual Improvement Association ..	0	10	6
Edward Caird, Esq.	1	1	0
Misses Mune	0	10	0
Findlay Anderson, Esq. ..	1	0	0
Wm. Bryce, M.D.	1	1	0
W. Inglis, Esq...	0	5	0
T. B. Johnston, Esq.	1	1	0
Rev. C. G. Scott	1	0	0
Miss M. C. Scott	1	0	0
John A. Howden	1	1	0
Miss P. M. Ker	0	10	0
Misses Stevenson	1	0	0
Mrs. Geo. Brown	0	10	0
Miss E. Hunter	0	10	0
James Sime, Esq.	1	0	0
Rev. Dr. Andrew Thomson ..	0	5	0
Patrick Guthrie, Esq.	0	5	0
Mrs. Maitland	0	5	0
Mrs. and Miss Paterson ..	0	10	0
Rev. Dr. Alex. Whyte	1	0	0
David Jeffrey, Esq.	1	0	0
Messrs. Scott Brothers.. ..	0	5	0
Prof. A. R. Simpson	1	1	0

	£	s.	d.
John Moir, M.D.	1	1	0
Douglas Maclagan, Esq. ..	1	1	0
Miss Mackenzie..	2	0	0
Mrs. Edmond	0	5	0
John Turnbull, Esq.	1	0	0
William Lyon, Esq.	1	0	0
Messrs. Andrew Usher & Co...	0	10	6
William Dickson, Esq... ..	1	1	0
Mrs. Miller	0	10	0
Rev. Dr. Teape..	0	10	0
Major G. A. Agnew	1	1	0
P. Mill, Esq.	1	1	0
J. P. B., Esq.	1	0	0
Rev. A. Luke	0	10	0
Rev. D. McDougall	0	10	6
R. M. Smith, Esq.	1	1	0
James Steuart, W.S.	0	10	6
John Macnair, Esq.	0	10	0
Dean Montgomery	0	5	0
John Kennedy, Esq.	1	0	0
Mrs. Wood	0	5	0
Sir James Falshaw, Bart. ..	1	0	0
John Scott Moncrieff, Esq. ..	0	10	0
Miss Buchanan..	0	2	6
Alex. Padon, Esq.	0	10	0
J. R. Stewart, Esq.	0	10	0
Messrs. Thomas Nelson & Sons	1	0	0
Robt. Younger, Esq.	0	10	0
Mrs. Colonel MacDougal ..	1	0	6
W. J. Duncan, Esq.	1	1	0
Rev. D. Simpson	0	10	6
William Robson, Esq... ..	0	5	0
J. Balfour Melville, Esq. ..	0	10	6
David S. Dickson, W.S. ..	0	10	6
Horatius Bonar, W.S... ..	0	10	6
Mrs. Hunter	0	2	6
Thomas A. G. Balfour, M.D...	0	5	0
Rev. J. C. Macphail	0	5	0
G. C. J. C.	10	0	0
Rev. J. H. Wilson, D.D. ..	0	5	0
J. T. Wilson, Esq.	0	10	0
Bishop of Edinburgh	0	5	0
John. M. McCandlish, Esq. ..	2	0	0
A. Elliot, Esq.	0	10	0
J. Thin, Esq.	0	10	0

GLASGOW.

April 21.—By cash.. .. .. 10*s.* 6*d.*

	£	s.	d.
J. Honeyman, Esq...	0	10	6

GUILDFORD.

April 8.—By cash .. .. £4 13*s.*

LEAMINGTON.

May 15.—By cash .. .. £1 11*s.* 6*d.*

	£	*s.*	*d.*
Rev. J. W. Johnson	0	10	6
Miss Brandt..	0	10	6
Miss Gotto	0	10	6

LEEDS.

May 22.—By cash .. .. £25.

	£	*s.*	*d.*
Sir Edward Baines..	1	1	0
Frederick Baines, Esq.	1	1	0
William Baxter, Esq.	0	10	6
J. Bilbrough, Esq.	0	10	6
A. Kemp Brown, Esq.	0	10	6
Right Rev. Bishop Cornthwaite, D.D.	1	1	0
Rev. Dr. Conder	0	10	6
Mrs. Crawford	1	1	0
The Misses Crowther	1	1	0
F. Davidson, Esq.	2	2	0
J. W. Embleton, Esq.	1	1	0
J. G. Goode, Esq., Nottingham	1	1	0
Miss Harris, Oxton Hall	1	1	0
Mrs. Harvey	1	1	0
Rev. W. A. Hayes, Dromore I.	1	0	0
Rev. John Hey, York	1	1	0
John Holmes, Esq...	0	10	6
John Jowitt, Esq.	1	1	0
Sir Charles H. Lowther, Bart.	2	2	0
Miss Maude, Knowsthorp	1	0	0
Henry Nelson, Esq.	1	1	0
Rev. H. Bickersteth Ottley, Horsham	1	1	0
Rev. Dr. Rooke, Rawdon College..	2	2	0
Charles Ryder, Esq.	1	1	0
Mrs. H. Scatcherd, East Keswick..	0	10	6
Mrs. Tweedale	1	1	0
J. W. Williams, Esq.	0	10	6
Rev. J. G. Wood	1	1	0

LEICESTER.

May 5.—By cash .. .. £1 10*s.*

	£	*s.*	*d.*
Rev. A. A. Isaacs	0	10	0
Miss Chamberlain	0	10	0
Rev. J. W. Willis	0	10	0

LINCOLN.

April 13.—By cash			10*s.* 6*d.*
	£	*s.*	*d.*
Miss Waldo Sibthorpe	0	10	6

MANCHESTER.

	£	*s.*	*d.*
May 15.—By cheque	2	2	0
June 2.— „	1	1	0
	£3	3	0

	£	*s.*	*d.*
W. Gray, Esq.	1	1	0
*a*Rev. W. F. Birch..	1	1	0
*a*G. Wilson Rigg, Esq.	0	10	6
*a*Mrs. Gillmore	0	10	6

NORWICH.

SUBSCRIPTIONS FOR 1885.

June 16.—By cash..			£18 18*s.*
	£	*s.*	*d*
The Very Rev. The Dean of Norwich	2	2	0
Rev. W. N. Ripley..	2	2	0
Rev. Hinds Howell	0	10	6
Rev. R. B. P. Kidd	0	10	6
Rev. Henry Petley	0	10	6
Rev. F. Hildyard	0	10	6
Mrs. Hildyard	0	10	6
G. C. Eaton, Esq.	0	10	6
Rev. R. W. Kennion	1	1	0
Rev. W. Hudson	0	10	6
Mrs. Hudson	0	10	6
J. J. Winter, Esq.	1	1	0
C. R. Gilman, Esq...	1	1	0
E. K. Harvey, Esq.	1	1	0
H. S. Patteson, Esq.	1	1	0
Rev. W. R. Collett..	1	1	0
Mrs. James Colman	1	1	0
Public Library	0	10	6
Rev. C. R. Manning	0	10	6
Robert Geldart, Esq.	0	10	6
Charles Dix, Esq.	0	10	6
Rev. W. F. Creeney	0	10	6
Rev. G. A. Crookshank	0	10	6

LIST OF SUBSCRIPTIONS.

ONTARIO, CANADA.

	£	s.	d.
April 8.—By cash	£1	16s.	
Rev. W. Edwards	0	3	0
Rev. W. Williams	0	12	0
Hon. A. Vidal	1	1	0

SUMMARY OF LECTURES.

By Rev. H. Geary.

1885.	£	s.	d.
April 16.—Dover	10	16	6

SUMMARY.

	£	s.	d.
Donations and Subscriptions..	108	9	0
Local Societies	152	0	6
Maps and Memoirs	119	16	1
Books	92	11	4
Lectures	9	1	6
	£481	18	5

SUPPLEMENTARY LIST.

STROUD, GLOUCESTERSHIRE.

	£	s.	d.
June 22, 1885.—By cash	£5	5s.	
J. H. Carpenter, Esq., Cainscross, near Stroud	0	10	6
S. J. Coley, Esq., High Street, Stroud..	0	10	6
W. H. C. Fisher, Esq., Rowcroft, Stroud	0	10	6
James Harper, Esq., Ebley, near Stroud	0	10	6
Thomas Lancaster, Esq., Bownham House, near Stroud ..	7	1	0
Sir W. H. Marling, Bart., Stanley House, near Stroud ..	1	1	0
T. S. Osborne, Esq., Lower Street, Stroud	0	10	6
Rev. Joseph Wilkinson, Brimscombe, near Stroud	0	10	6

ERRATA.

For Miss Garratt £1 1*s.*, *read* Miss Garratt 10*s.* 6*d.*; Mrs. Germon 10*s.* 6*d.*
For T. H. Plowes, *read* John H. Plowes.
For J. H. Waldon, *read* J. H. Weldon.

LIST OF HONORARY SECRETARIES AND LOCAL ASSOCIATIONS.

ALLOA: Rev. Alexander Bryson and Rev. Daniel M'Lean.
ABERDEEN: Rev. Prof. Milligan, D.D. *Hon. Sec.* Ladies' Association, Miss Mary Forbes.
ADELAIDE: Rev. W. R. Fletcher.
AMBLESIDE: Rev. H. B. Rawnsley, Wray Vicarage.
ANSTRUTHER: W. H. Mackintosh, Esq.
ARBROATH: T. B. F. Webster, Esq.
AYR: Robert Murdoch, Esq.
BASINGSTOKE: Rev. W. Marriner.
BATH: Rev. T. P. Methuen.
BEDFORD: Rev. Canon Haddock.
BELFAST: Rev. the President of Queen's College.
BIRKENHEAD: Rev. J. T. Kingsmill, St. Aidan's College.
BIRMINGHAM: Rev. F. Dell.
BISHOP'S WALTHAM: Rev. H. R. Fleming.
BLACKBURN: Herbert Birch, Esq., and Rev. A. B. Grosart.
BLAIRGOWRIE: W. S. Soutar, Esq.
BODMIN: S. Hicks, Esq.
BOLTON: George Monk, Esq.
BRECON: Richard Mills, Esq.
BRIGHTON: Rev. C. E. Douglass.
BURNLEY: Alfred Strange, Esq.
BURY: *Hon. Treas.*—Rev. Canon J. Hornby; *Hon. Sec.*—Rev. D. Walmsley.
CAMBRIDGE: W. M. Hicks, Esq., M.A., St. John's College; G. T. Bettany, Esq., M.A., Gonville and Caius.
CANADA: Toronto.—Subscriptions are received by the Hon. G. W. Allan.
CASTLE BELLINGHAM (IRELAND): Rev. F. G. McClintock.
CARDIFF: W. Adams, Esq., Cambridge House, Park Place, Cardiff.
CHELMSFORD: Rev. E. Nathaniel Powell.
CHELTENHAM: Dr. E. Wilson.
CHESTER: Rev. J. Davidson.
CHIPPENHAM: A. T. Keary, Esq.
CITY AND COUNTY OF CORK: H. S. Perry, Esq., Monkstown.
CLIFTON and BRISTOL: Rev. C. H. Wallace.
COLCHESTER: Rev. N. P. Gepp.
CROYDON: J. W. Janson, Esq.
DARLINGTON: J. P. Pritchett, Esq.
DEVONPORT: J. Venning, Esq.

DUBLIN : Denis Crofton, Esq., and Rev. G. T. Stokes.
DUNDEE : *Hon. Treas.*—Alex. Scott, Esq.
DUNFERMLINE : Rev. A. Graham, Crossgates.
EASTBOURNE : Rev. H. R. Whelpton.
EDINBURGH : Rev. W. Lindsay Alexander, D.D., William Dickson, Esq., F.R.S.E., and T. B. Johnston, Esq., F.R.G.S., 16, So. St. Andrew Street.
EPSOM : Miss Hislop.
EXETER : Rev. Prebendary Acland, Broad Clyst, and Rev. W. David.
FAIRFIELD : S. J. A. Barrow-Clough.
FALMOUTH, for the County of Cornwall : A. Lloyd Fox.
FROME : C. W. Le Gros, Esq.
GAZA : J. G. Pickard, Esq.
GLASGOW : Rev. W. P. Dickson, D.D., Rev. Donald Macleod, D.D., A. B. M'Grigor, Esq., LL.D., and James Andrew Allan, Esq.
GREENOCK : Edward Blackmore, Esq.

GUILDFORD : Colonel Pask.
HASTINGS : J. E. Liddiard, Esq.
HEREFORD : Rev. F. S. Stooke-Vaughan.
HERTFORD : W. M. Armstrong, Esq.
HITCHIN : J. Pollard, Esq.
HOLYHEAD : Rev. W. R. Jones.
HUDDERSFIELD : Henry Barker, Esq.
HULL : J. P. Bell, Esq., M.D.
IPSWICH :
IRELAND :—DUBLIN : *Hon. Secs.*—Rev. G. T. Stokes, Blackrock ; Denis Crofton, Esq. *Treasurers.*—The Munster Bank.
JERUSALEM : Dr. Chaplin.
KENDAL : Robert Somervell, Esq.
KIRKCALDY : John Barnett, Esq.
LANCASTER : Rev. J. Bone.
LARKHALL : Rev. William Findlay, A.M.
LEAMINGTON : Rev. J. Johnson, M.A.
LEDBURY : Rev. F. Salter Stooke-Vaughan.
LEEDS : Edward Atkinson, Esq., F.R.C.S.
LEICESTER : Rev. A. A. Isaacs, M.A.
LEWES : Rev. Cecil Blaker.
LICHFIELD : Herbert M. Morgan, Esq. *Hon. Sec.* Ladies' Association, Mrs. Bagnall.
LINCOLN : Rev. A. R. Maddison.
LIVERPOOL : Ven. Archdeacon Bardsley.
LONDONDERRY : James McCorkell, Esq., Queen Street.

MANCHESTER : Rev. W. F. Birch, and Rev. Canon Crane. *Treasurer.*—Olive Heywood, Esq., Manchester and Salford Bank, St. Ann's Street.
MANSFIELD : W. Gouk, Esq.
MARGATE : Rev. G. Collis.
MARKET HARBOROUGH : Joseph Nunnelly, Esq.
MELTON MOWBRAY : Rev. Arthur M. Rendel.
MELROSE : Ralph Dunn, Esq.

MONTROSE: Mr. Mackie.
MORPETH: Dr. Robinson.
NORWICH: Rev. W. F. Creeny.
OXFORD: Rev. Canon Girdlestone.
PERTH: John W. Jameson, Esq.
PITLOCHRIE: Hugh Mitchell, Esq.
PLYMOUTH: J. B. Rowe, Esq., J. Shelly, Esq., and H. S. B. Woodhouse,
PWLLHELI: Rev. Owen Jones.
RAMSGATE: Rev. F. Gell.
READING: J. Sizer, Esq., Willow Cottage, Mill Lane.
REIGATE:
RICHMOND, SURREY:
RIPON: J. W. Weight, Esq.
RUGBY: Rev. A. O. James.
RUNCORN: Rev. W. Preston, M.A.
RYDE: E. Knocker, Esq.
SALISBURY: J. Lardner Green, Esq., M.R.C.S.
SCARBOROUGH: Rev. J. Bedford.
SHEFFIELD: *Chairman*—Rev. Canon Blakeney, Vicar of Sheffield.
SHREWSBURY: Rev. C. H. Drinkwater.
SISSINGHURST: Rev. W. Peterson.
SOUTHAMPTON and ROMSEY: Rev. Henry C. Hawtrey.
SOUTHSEA: Rev. F. Baldey.
SOWERBY: Rev. A. L. W. Bean.
ST. ALBANS: Rev. W. J. Lawrance.
ST. ANDREWS: Dr. Lees, and Dr. Mitchell.
ST. HELENA: Rev. Canon Lambert.
STROUD: T. S. Osborne, Esq.
SYDENHAM and FOREST HILL: Rev. William Boyd, LL.D.
SYDNEY, NEW SOUTH WALES: Rev. R. Steel, D.D.
TEIGNMOUTH: Rev. H. Hutchins.
TORQUAY: Rev. Prebendary Wolfe.
UXBRIDGE: Rev. A. A. Harland.
WARMINSTER: W. Frank Morgan, Esq.
WELLS: W. I. Welsh, Esq.
WESTON-SUPER-MARE: Rev. H. G. Tomkins.
WEYMOUTH: G. Ff. Eliot, Esq.
WHITBY: E. W. Chapman, Esq.
WILLESDEN: Rev. J. Crane Wharton.
WINCHESTER: Rev. R. P. Hutchinson.
WINDSOR: Rev. Stephen Hawtrey.
WOLVERHAMPTON: Mr. J. McD. Roebuck.
WOODSTOCK: Ontario.—William Edwards, sen., Esq.
WORCESTER: Rev. Francis J. Eld.
YEOVIL: Rev. Abel Phillips, Holy Trinity Vicarage.

The Committee will be glad to communicate with gentlemen willing to help the Fund as Honorary Secretaries.

LIST OF DONATIONS AND SUBSCRIPTIONS.

FROM JUNE 17TH TO SEPTEMBER 21ST, 1885, INCLUSIVE.

a denotes Annual Subscriber.

*** If any omission or mistake be observed in the following lists, the Secretary will be very glad to be informed of it, and will rectify the error in the next *Quarterly Statement*.

	£	s.	d.
*a*Rev. W. H. Askwith.. ..	1	1	0
*a*H. N. Angus, Esq.	0	10	6
*a*R. Ashby, Esq.	1	1	0
*a*B. C. Ashton, Esq.	1	0	0
*a*W. Steadman Aldis, Esq. ..	2	0	0
*a*Mrs. Anderson	3	3	0
*a*Miss G. Austin	0	10	6
*a*Gen. Aylmer	1	1	0
*a*W. Botterill, Esq.	1	1	0
*a*G. Burns, Esq.	7	0	0
*a*R. Blair, Esq...	0	10	6
*a*Rev. T. O. Beeman	0	10	6
*a*W. H. Beeman, Esq... ..	0	10	6
*a*J. Bevan Braithwaite, Esq. ..	0	10	6
*a*Rev. S. J. Bowles	0	10	6
*a*Rev. Canon Brownlow ..	0	10	6
*a*R. Clayton Browne, Esq. ..	1	1	0
*a*Rev. W. E. Buckley (1884–85)	2	2	0
*a*Miss K. Browne	0	10	0
*a*W. Butler, Esq.	0	10	6
*a*W. Brown, Esq.	1	1	0
*a*Rev. W. R. Blackett	0	10	6
*a*Captain Bennett	1	1	0
*a*Rev. W. Bruce	0	10	6
*a*Rev. A. C. Blunt	1	1	0
*a*Miss Bates	0	10	6
*a*G. K. Cannington, Esq. ..	0	10	6
*a*Alex. Carson, Esq.	1	1	0
*a*Rev. W. B. Caparn	0	10	0
*a*Rev. A. Cachemaille	0	10	6
*a*Dr. Cranage	1	1	0
*a*B. H. Collins, Esq.	2	0	0
*a*John Cock, Esq.	0	5	0
*a*Rev. H. A. Crosbie	1	1	0
*a*Miss Davies	2	0	0
*a*E. B. Dawson, Esq. (1883–85)	3	3	0
*a*James Douglas, Esq... ..	0	5	0
*a*Rev. J. Davidson	0	10	0
*a*Dr. Dutfield	0	10	6
*a*Lord Ebury	2	2	0
*a*C. Bickerton Evans, Esq. ..	10	0	0
Carried forward	£55	18	6

	£	s.	d.
Brought forward	55	18	6
*a*Mrs. Frith	0	10	6
*a*Rev. E. Flecker	0	10	6
*a*Mrs. Fremlin	2	0	0
*a*Rev. W. Farrer	2	2	0
*a*Mrs. Gorham	0	10	0
*a*Rev. E. T. Gregory	0	10	6
*a*Miss Gamble	1	1	0
*a*Mrs. Heber-Percy	1	1	0
*a*T. H. F. Hickes, Esq. ..	0	10	6
*a*J. B. Hodgkin, Esq.	2	0	0
*a*G. F. Hooper, Esq.	0	10	6
*a*J. F. Hayward, Esq... ..	2	0	0
*a*Mrs. A. Hopkins	1	1	0
*a*R. Henderson, Esq.	0	10	6
*a*Mrs. Allan Henry	1	1	0
*a*Mrs. Huntley	1	1	0
*a*Rev. A. H. Hamilton ..	0	10	0
*a*E. J. Hopkins, Esq.	1	0	0
*a*Lady E. Knox	0	10	6
*a*Robert Kerr, Esq.	1	1	0
*a*J. D. Lamb, Esq.	1	1	0
*a*Miss Legg	0	10	6
*a*Miss Lockwood	0	10	6
*a*Miss McInnes..	0	10	0
*a*Dr. Mackenzie	0	10	6
*a*Rev. W. McGregor	5	5	0
*a*Miss Martin	1	0	0
*a*M. Moniquet, Esq.	0	10	6
*a*Rev. C. L. Methuen	1	1	0
*a*John Megaw, Esq.	0	10	6
*a*Rev. W. M. H. Milner ..	0	10	6
*a*R. D. Martin, Esq.	1	1	0
*a*T. B. Martin, Esq.	0	10	6
*a*Rev. J. Martin	1	1	0
*a*J. B. Mayfield, Esq... ..	1	1	0
*a*J. Miller, Esq.	1	1	0
*a*The Misses Muir	1	0	0
a — Nelson	0	10	0
*a*Rev. G. D. W. Ommaney ..	1	0	0
*a*Rev. R. W. Prichard ..	0	10	6
Carried forward	£95	15	0

	£	s.	d.
Brought forward	95	15	0
*a*Henry Prigg, Esq.	0	10	6
*a*Prof. T. Powell (1885-86) ..	1	1	0
*a*Rev. D. Paul	1	0	0
*a*R. J. Pressley, Esq.	0	10	6
*a*Rev. W. B. Richards, D.D. ..	0	10	0
*a*W. Robinson, Esq.	1	1	0
*a*J. Roberton, Esq.	0	10	0
*a*T. Roberts, Esq.	0	10	6
*a*Marshall Reed, Esq.	0	12	0
*a*Rev. W. A. Rouse	0	12	6
*a*Rev. G. H. Scott	0	10	0
*a*Rev. E. C. Scobell	0	10	6
*a*Prof. Sanday	1	1	0
*a*Rev. R. Shepherd	0	5	0
Carried forward	£104	19	6

	£	s.	d.
Brought forward	104	19	6
*a*W. E. Stevenson, Esq. ..	1	1	0
*a*J. P. Stilwell, Esq.	1	1	0
*a*G. Doyle Smith, Esq. ..	1	1	0
*a*F. J. Tripp, Esq.	1	1	0
*a*Rev. R. A. Tindal	0	10	6
*a*Rev. W. Urwick	0	10	0
*a*Miss Watson	0	10	0
*a*Rev. C. H. Waller	2	10	0
*a*W. Winsford, Esq.	0	10	6
*a*Rev. R. G. Walker	0	10	6
*a*F. D. Ward, Esq. (1883-85)	1	11	6
*a*Mrs. C. W. Willis	1	1	0
*a*Rev. Dr. Wilson	1	0	0
*a*Mrs. Wright	1	1	0
Total	£118	18	6

LOCAL SOCIETIES.

(*Acknowledged in detail under special heading*).

	£	s.	d.
Adelaide	5	4	6
Ayr	2	16	8
Bath	8	6	6
Belfast	1	11	6
Brighton	1	1	0
Burnley	2	0	0
Epsom	1	11	6
Glasgow	3	2	0
Ledbury	5	5	0
Manchester	6	6	0
Scarborough	0	10	6
Stroud	5	5	0
	£43	6	2
By Lecture Account	£6	7*s.*	4*d.*

SUMMARY OF LECTURES.

By George St. Clair, Esq.

1885.		£	s.	d.
September	1.—Ambleside	7	6	3
„	3.—Keswick	3	1	11
„	4.—Moffat	2	10	9
„	7.—Helmsburgh	6	15	0
„	8.—Rothesay	2	3	8
„	11.—Dunoon	3	7	0
„	14.—Largs	3	1	0

By Rev. H. Geary.

1885.		£	s.	d.
July	16.—St. John's Hall, Highbury	3	3	0

SUBSCRIPTIONS RECEIVED THROUGH MR. G. ST. CLAIR.

	£	s.	d.
Robert S. Smith, Esq., Dunoon, N.B.	0	10	6
Miss Grace Readmen, Rothesay	0	10	6
Mrs. A. Johnstone, Helmsburgh	1	1	0
A. Baron, Esq., Helmsburgh	0	10	6
John Stuart, Esq., Helmsburgh	0	10	6
Mrs. Stanley Mitchell, Devon	1	1	0

ADELAIDE (AUSTRALIA).

July 14.—By cash .. .. £5 4*s.* 6*d.*

AYR.

September 25.—By cash .. .. £2 16*s.* 8*d.*

	£	s.	d.
Miss Aytoun..	0	10	0
D. Currie, Esq.	0	5	0
Campbell Douglas, Esq.	0	10	6
J. Flint, Esq.	0	10	6
R. D. Murdoch, Esq.	1	1	0

BATH.

July 3.—By cash .. .. £8 6*s.* 6*d.*

	£	s.	d.
Mrs. Newnham	1	10	0
Mrs. Stainforth (late)	1	1	0
Rev. T. P. Methuen	1	1	0
Rev. Prebendary Wood	0	10	6
Miss P. Christie	1	1	0
Rev. J. B. Buttanshaw	0	10	6
Miss Buttanshaw	0	10	6
Rev. T. Hayes	0	10	6
J. E. Bantrum, Esq.	0	10	6
C. Timins, Esq.	0	10	6
Rev. H. H. Winwood	0	10	6

BELFAST.

September 14.—By cash .. .. £1 11*s.* 6*d.*

	£	s.	d.
Mrs. Gaffikin	0	10	6
Rev. Dr. Porter	1	1	0

LIST OF SUBSCRIPTIONS

BRIGHTON.

August 31.—By cash .. .. £1 1*s.*

	£	*s.*	*d.*
Rev. W. S. Fowler	1	1	0

BURNLEY.

September 10.—By cash .. .. £2.

	£	*s.*	*d.*
Rev. F. J. Grant	0	10	0
Alfred Strange, Esq.	0	10	0
Mrs. Stroyan	0	10	0
J. Langfield Ward, Esq.	0	10	0

EPSOM.

September 3.—By cash .. .. £1 11*s.* 6*d.*

	£	*s.*	*d.*
The Misses Butcher	1	1	0
Miss Hislop	0	10	6

GLASGOW.

	£	*s.*	*d.*
P. Forbes, Esq.	2	2	0
P. B. Junor, Esq.	1	0	0

LEDBURY.

PER REV. F. S. STOOKE-VAUGHAN.

July 15.—By cash .. .. £5 15*s.*

	£	*s.*	*d.*
Miss A. A. Davies, Leominster (1884–85)	2	2	2
Rev. J. Wollam (1883–84)	1	1	0
Rev. G. H. Kirwood (1884)	0	10	6
Rev. Canon Musgrave (1885)	0	10	6
Rev. F. S. Stooke-Vaughan (1884–85)	1	1	0

MANCHESTER.

June 23.—By cheque .. .. £1 11*s.* 6*d.*
September 14.—By cheque.. .. .. £4 14*s.* 6*d.*

	£	*s.*	*d.*
*a*Rev. E. C. Hore	0	10	6
*a*Rev. W. Laycock	0	10	6
*a*Rev. H. S. Byrth	0	10	6
*a*J. Allsop, Esq.	1	1	0
*a*F. H. Leedham, Esq.	1	1	0
*a*T. Chorlton, Esq.	0	10	6
*a*Miss Lowe..	1	1	0
*a*Miss A. Lowe	1	1	0

SCARBOROUGH.

	£	*s.*	*d.*
W. Flint, Esq.	0	10	6

STROUD, GLOUCESTERSHIRE.

June 22, 1885.—By cash .. .. £5 5*s.*

	£	*s.*	*d.*
J. H. Carpenter, Esq., Cainscross, near Stroud	0	10	6
S. J. Coley, Esq., High Street, Stroud	0	10	6
W. H. C. Fisher, Esq., Rowcroft, Stroud	0	10	6
James Harper, Esq., Ebley, near Stroud..	0	10	6
Thomas Lancaster, Esq., Bownham House, near Stroud	7	1	0
Sir W. H. Marling, Bart., Stanley House, near Stroud	1	1	0
T. S. Osborne, Esq., Lower Street, Stroud	0	10	6
Rev. Joseph Wilkinson, Brimscombe, near Stroud ..	0	10	6

SUMMARY.

	£	*s.*	*d.*
Donations and Subscriptions	118	18	6
Local Societies	43	0	2
Lectures	6	7	4
Maps and Memoirs	122	5	3
Books	6	18	11
	£297	10	2

LIST OF HONORARY SECRETARIES AND LOCAL ASSOCIATIONS.

ALLOA: Rev. Alexander Bryson and Rev. Daniel M'Lean.
ABERDEEN: Rev. Prof. Milligan, D.D. *Hon. Sec.* Ladies' Association, Miss Mary Forbes.
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